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ABSTRACT

This is the 13th annual listing of research on mathematics education. Annotated references are organized alphabetically by author within three categories: (1) research summaries; (2) journal-published reports; and (3) dissertation abstracts. An index is also provided to help locate references to designated mathematical topics. Topic areas include: achievement; algebra; arithmetic operations; attitudes/anxiety; calculators and computers; cognitive style; diagnosis and remediation; ethnic and social variables; geometry and measurement; learning; learning disabilities; mathematics materials; number and numeration; organizing for instruction; problem-solving; sequencing; sex differences; and test analysis. Accompanying the author's name in this index is a grade-level designation. In addition, each annotation listed in the three major categories also includes a grade-level (or age-level) designation. Annotations generally indicate one principal finding of a study, although most have additional findings. Therefore, the original report should be checked for other results as well as for limitations affecting the validity of the findings. Several studies in which mathematics education was not the primary focus are also included. Such studies are usually not annotated. (JN)

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RESEARCH ON MATHEMATICS EDUCATION REPORTED IN 1982

MARILYN N. SUYDAM, The Ohio State University

JOURNAL FOR
RESEARCH IN
MATHEMATICS
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National Council of
Teachers of Mathematics

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JOURNAL FOR RESEARCH IN
MATHEMATICS EDUCATION

JULY 1983, VOLUME 14, NUMBER 4

226 . . . EDITORIAL
Jeremy Kilpatrick

227 . . . RESEARCH ON MATHEMATICS EDUCATION REPORTED IN 1982
Marilyn N. Suydam

228 . . . Research Summaries

230 . . . Articles

258 . . . Dissertations

294 . . . Journals Searched

296 . . . Index

EDITORIAL

Jeremy Kilpatrick

Many mathematics educators in American colleges and universities are housed in a department that carries "curriculum and instruction" in its title. Perhaps it's fitting, then, that these two abstractions cover the lion's share of recent research in mathematics education. The comparison of instructional methods has always been a popular research topic, and the curriculum development efforts of the past two decades managed to elevate the examination of curricula to a higher level on the nation's research agenda. A glance at the titles of the studies surveyed in this issue will confirm that researchers are still largely preoccupied with matters of curriculum and instruction.

The current "crisis" in mathematics education, however, as reported by the media, seems concerned less with what mathematics is being taught or how it is being taught than with who is teaching it. At the May 1982 national convocation on the state of precollege education in mathematics and science, sponsored by the National Academies of Science and Engineering, scarcely a word was uttered about curriculum development or instructional improvement—apart from how these might be affected by technology (meaning the computer). Instead, the focus of attention was on teacher education and re-education, as well as on how teaching might be made a more attractive and rewarding career. A similar focus could be seen at the February 1983 conference of the National Institute of Education on teacher shortages in mathematics and science. Congress may act to fund some research and development concerned with curriculum and instruction, but its attention seems drawn primarily to the cadre of mathematics and science teachers—who they are, how their qualifications might be improved, how they might be encouraged to remain in teaching, and how others might be encouraged to enter.

Although curriculum and instruction still deserve our attention, maybe the time is ripe for more researchers to take a closer look at mathematics teachers and at the settings and circumstances in which they work. We know very little about the teacher's professional life—about how mathematics teaching looks from the inside. Can we paint a picture of the mental life of mathematics teachers? Can we, so to speak, walk a kilometer in their moccasins? Some researchers are attempting such feats, but their work is not yet well represented in these pages.

A changing role for the mathematics teacher appears to be in the offing. In his reaction paper at the NIE conference, Bob Stake argued that we must not depend on tomorrow's teachers to be knowledge givers at the front of a class. Instead, social and epistemological conditions will require teachers to be more oriented to individual learning, to what pupils and teachers are already interested in, to out-of-school learning opportunities, and to pupils' willingness to work. Will the research enterprise contribute to this change, or will it lag behind?

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RESEARCH ON MATHEMATICS EDUCATION REPORTED IN 1982

MARILYN N. SUYDAM, *The Ohio State University*

In this 13th annual listing of mathematics education research to appear in *JRME*, the references are given alphabetically by author within three categories (research summaries, articles, and dissertations). Some studies in which mathematics education was not the primary focus are included. Such studies are usually not annotated, as are studies focused on mathematics education. Annotations generally indicate one principal finding of a study, although most studies have additional findings. The original report should be checked for other results as well as for limitations affecting the validity of the findings.

Some readers will note a trend: The number of dissertations is decreasing, whereas the number of articles is increasing. For 1980, the listing included 359 dissertations and 195 articles (including summaries); for 1981, 360 dissertations and 219 articles; for 1982, 284 dissertations and 283 articles. The decline in the number of dissertations can probably be attributed to the smaller number of graduate students in mathematics education. The increase in the number of articles may be a result of new journals publishing research reports. Another factor, however, is that two other persons, Karen Fuson and Jeremy Kilpatrick, searched several journals not available to me. I appreciate their help! (If there are others who would like to aid in this search process, please contact me.) Some references are undoubtedly overlooked, but we are trying to be as comprehensive as possible.

I would also like to thank another person who has contributed substantially to this listing for many years: Beverly Brooks Keith, from State College, Pennsylvania. She has searched half the journals; without her help, this listing would not exist. She is also the one who has typed the listing each year (correcting my errors as she does so!). I trust she knows how much I have appreciated her help.

I hope you find the listing useful. If you have changes to suggest, please let me know.

DAI is used to refer to *Dissertation Abstracts International*. Order numbers are included; orders should be sent to University Microfilms International, P.O. Box 1764, Ann Arbor, MI 48106.

Funds for the preparation of this listing were provided in part by the ERIC Clearinghouse for Science, Mathematics and Environmental Education pursuant to contract no. 400-78-0004 with the National Institute of Education, U.S. Department of Education. Opinions expressed in this report do not necessarily reflect the positions or policies of NIE or the U.S. Department of Education.

Research Summaries

One listing of research reports and 22 articles summarizing or discussing research findings were located.

Austin, Joe Dan. Children with a Learning Disability and Mathematics. School Science and Mathematics 82: 201-208; March 1982. [elementary]

Bracey, Gerald W. Computers in Education: What the Research Shows. Electronic Learning 2: 51-54; November/December 1982. [secondary]

Bright, George W. and Harvey, John G. A Look at More/Less Among Children Entering School. School Science and Mathematics 82: 230-234; March 1982. [ages 3-7]

Brophy, Jere E. How Teachers Influence What Is [illegible]t and Learned in Classrooms. Elementary School Journal 83: 1-13; September 1982. [elementary, secondary]

Caldwell, Janet H.; Huitt, William G.; and Graeber, Anna O. Time Spent in Learning: Implications from Research. Elementary School Journal 82: 471-480; May 1982. [elementary]

Cohen, Peter A.; Kulik, James A.; and Kulik, Chen-Lin C. Educational Outcomes of Tutoring: A Meta-Analysis of Findings. American Educational Research Journal 19: 237-248; Summer 1982. [grades 1-9]

Darke, Ian. A Review of Research Related to the Topological Primacy Thesis. Educational Studies in Mathematics 13: 119-142; May 1982. [elementary]

Giaconia, Rose M. and Hedges, Larry V. Identifying Features of Effective Open Education. Review of Educational Research 52: 579-602; Winter 1982. [elementary, secondary]

Hansford, B. C. and Hattie, J. A. The Relationship Between Self and Achievement/Performance Measures. Review of Educational Research 52: 123-142; Spring 1982. [preschool-college]

Hiebert, James and Carpenter, Thomas P. Piagetian Tasks as Readiness Measures in Mathematics Instruction: A Critical Review. Educational Studies in Mathematics 13: 329-345; August 1982. [elementary]

Holtan, Boyd. Attribute-Treatment-Interaction Research in Mathematics Education. School Science and Mathematics 82: 593-602; November 1982. [--]

Kirschner, Vicky. What Research Says: Females and Mathematics. School Science and Mathematics 82: 511-513; October 1982. [--]

Kulik, Chen-Lin C. and Kulik, James A. Effects of Ability Grouping on Secondary School Students: A Meta-Analysis of Evaluation Findings. American Educational Research Journal 19: 415-428; Fall 1982. [secondary]

Kulik, Chen-Lin C. and Kulik, James A. Research Synthesis on Ability Grouping. Educational Leadership 39: 619-621; May 1982. [secondary]

Kulik, Chen-Lin C.; Schwalb, Barbara J.; and Kulik, James A. Programmed Instruction in Secondary Education: A Meta-Analysis of Evaluation Findings. Journal of Educational Research 75: 133-138; January/February 1982. [secondary]

Lysakowski, Richard S. and Walberg, Herbert J. Instructional Effects of Cues, Participation, and Corrective Feedback: A Quantitative Synthesis. American Educational Research Journal 19: 559-578; Winter 1982. [preschool-adult]

Nesher, P.; Greeno, J. G.; and Riley, M. S. The Development of Semantic Categories for Addition and Subtraction. Educational Studies in Mathematics 13: 373-394; November 1982. [elementary]

Prasad, B. S. Calculators in Mathematics: What the Research Says. Australian Mathematics Teacher 38: 2-3; December 1982. [--]

Silverman, Irwin W. and Rose, Arthur P. Compensation and Conservation. Psychological Bulletin 91: 80-101; January 1982. [ages 6, 7, adults]

Suydam, Marilyn N. Research on Mathematics Education Reported in 1981. Journal for Research in Mathematics Education 13: 241-318; July 1982.

This twelfth annual annotated listing includes 13 research summaries, 206 journal-published reports, and 360 dissertations for kindergarten through post-secondary levels. An index is included. (grades K-12, college)

Suydam, Marilyn N. Update on Research on Problem Solving: Implications for Classroom Teaching. Arithmetic Teacher 29: 56-60; February 1982. [elementary]

Williams, Patricia A.; Haertel, Edward H.; Haertel, Geneva D.; and Walberg, Herbert J. The Impact of Leisure-Time Television on School Learning: A Research Synthesis. American Educational Research Journal 19: 19-50; Spring 1982. [grades K-12]

Wyne, Marvin D. and Stuck, Gary B. Time and Learning: Implications for the Classroom Teacher. Elementary School Journal 83: 67-75; September 1982. [elementary]

Articles

This section contains 260 articles. The list of journals searched and the number of articles from each source may be found at the end of the total listing.

Albion, Fred M. and Salzberg, Charles L. The Effect of Self-Instructions on the Rate of Correct Addition Problems with Mentally Retarded Children. Education and Treatment of Children 5: 121-131; Spring 1982.

The self-instruction package resulted in "meaningful increases" in the rate of correctly performed mathematics problems for three of the four pupils. [ages 11-13 (MRs)]

Alderman, Donald L. Language Proficiency as a Moderator Variable in Testing Academic Aptitude. Journal of Educational Psychology 74: 580-587; August 1982. [secondary]

Anderson, Charles C. Some Correlates of TV Viewing. Alberta Journal of Educational Research 28: 58-68; March 1982. [grades 5, 6]

Anderson, John R. Acquisition of Cognitive Skill. Psychological Review 89: 369-406; July 1982. [?]

Anderson, Ronald E.; Welch, Wayne W.; and Harris, Linda J. Methodological Considerations in the Development of Indicators of Achievement in Data from the National Assessment. Journal of Educational Measurement 19: 113-124; Summer 1982.

Mathematics data from NAEP were analyzed to ascertain procedures for developing indicators of achievement. (age 17)

Anglin, Gary J.; Schwen, Thomas M.; and Anglin, John B. The Interaction of Learner Aptitudes with Instructional Treatment in Quadratic Inequalities. ECTJ 30: 131-140; Fall 1982.

Several significant interactions were found between pictorial or symbolic treatments and aptitudes. (college)

Antonak, Richard F.; King, Susan; and Lowy, John J. Otis-Lennon Mental Ability Test, Stanford Achievement Test, and Three Demographic Variables as Predictors of Achievement in Grades 2 and 4. Journal of Educational Research 75: 366-373; July/August 1982. [grades 2, 4]

Archer, Peter and Edwards, John R. Predicting School Achievement from Data on Pupils Obtained from Teachers: Toward a Screening Device for Disadvantage. Journal of Educational Psychology 74: 761-770; October 1982. [age 5]

Arlin, Patricia Kennedy. A Multitrait-Multimethod Validity Study of a Test of Formal Reasoning. Educational and Psychological Measurement 42: 1077-1088; Winter 1982. [adult (ages 18-19)]

Armstrong, Jane M. and Price, Richard A. Correlates and Predictors

of Women's Mathematics Participation. Journal for Research in Mathematics Education 13: 99-109; March 1982.

Most strongly related to participation were positive attitudes, perceived need, and positive influences of others. (grade 12)

Ashcraft, Mark H. and Fierman, Bennett A. Mental Addition in Third, Fourth, and Sixth Graders. Journal of Experimental Child Psychology 33: 216-234; April 1982.

Third grade appears to be the transitional age with respect to memory structure for addition, with half the children counting and half retrieving basic addition facts from memory. (grades 3, 4, 6)

Austin, Joe Dan and Lee, Mary Ann Byrne. Readability and Mathematics Test Item Difficulty. School Science and Mathematics 82: 284-290; April 1982.

Correlations between NLSMA test item difficulty and readability measures were less than 0.3. (grades 7, 8)

Bacon, Herbert L.; et al. The Effectiveness of Bilingual Instruction with Cherokee Indian Students. Journal of American Indian Education 21: 34-43; February 1982. [grade 8]

Ballew, Hunter and Cunningham, James W. Diagnosing Strengths and Weaknesses of Sixth-Grade Students in Solving Word Problems. Journal for Research in Mathematics Education 13: 202-210; May 1982.

Computation, problem interpretation, reading, and integration can each be major causes of problem-solving difficulty. (grade 6)

Bander, Ricki S.; Russell, Richard K.; and Zamostny, Kathy P. A Comparison of Cue-Controlled Relaxation and Study Skills Counseling in the Treatment of Mathematics Anxiety. Journal of Educational Psychology 74: 96-103; February 1982.

The study-skills treatment produced significant improvement in mathematics anxiety and achievement on the posttest; after three weeks, cue-controlled relaxation was superior. (college)

Bar-Eli, Nurit and Raviv, Amiram. Underachievers as Tutors. Journal of Educational Research 75: 139-143; January/February 1982. [grades 2, 5, 6]

Barling, J. Self-Determined Performance Standards and Locus of Control Beliefs in Children's Academic Performance. British Journal of Educational Psychology 52: 100-103; February 1982. [mean age 10]

Baroody, Arthur J. Evaluating the Validity of Brainerd's Cardinality Task. Child Study Journal 12: 79-87; 1982.

Scores on the cardinality task were significantly lower than those on the comparison tasks. (grades K, 4, teachers)

Bar-Tal, Daniel; Raviv, Amiram; Raviv, Alona; and Bar-Tal, Yoram.

Consistency of Pupils' Attributions Regarding Success and Failure. Journal of Educational Psychology 74: 104-110; February 1982. [grade 6]

Battista, Michael T. and Krockover, Gerald H. A Model for the Computer Education of Preservice Elementary Teachers. Journal of Computers in Mathematics and Science Teaching 2: 14-17; Fall 1982.

The earth science class given quizzes on a microcomputer scored higher on a computer literacy test than a mathematics class running programs and solving problems on a microcomputer. (elementary preservice)

Battista, Michael T.; Wheatley, Grayson H.; and Talsma, Gary. The Importance of Spatial Visualization and Cognitive Development for Geometry Learning in Preservice Elementary Teachers. Journal for Research in Mathematics Education 13: 332-340; November 1982.

Both factors correlated significantly with achievement, but cognitive development was superior in accounting for variance. The geometry course improved spatial visualization. (elementary preservice)

Battle, James and Labercane, George. Relationship Between Achievement and Ability. Psychological Reports 50: 1284-1286; June 1982. [grades 2-9]

Becker, Jerry P. 1979 National Middle School Mathematics Olympiads in the People's Republic of China. Mathematics Teacher 75: 161-169; February 1982. [secondary]

Becker, Wesley C. and Gersten, Russell. A Follow-Up of Follow Through: The Later Effects of the Direct Instruction Model on Children in Fifth and Sixth Grades. American Educational Research Journal 19: 75-92; Spring 1982. [grades 5, 6]

Bednarz, Nadine and Janvier, Bernadette. The Understanding of Numeration in Primary School. Educational Studies in Mathematics 13: 33-57; February 1982.

Details of children's responses to interview items, as well as conclusions, are given. (ages 8-10)

Benbow, Camilla P. and Stanley, Julian C. Intellectually Talented Boys and Girls: Educational Profiles. Gifted Child Quarterly 26: 82-88; Spring 1982.

Boys and girls performed similarly on the verbal SAT, but boys had a significantly higher mean score on the math SAT. (elementary, junior high)

Benbow, Camilla Persson and Stanley, Julian C. Consequences in High School and College of Sex Differences in Mathematical Reasoning Ability: A Longitudinal Perspective. American Educational Research Journal 19: 598-622; Winter 1982.

The sex difference favoring males in mathematical reasoning ability was still evident after several years. Males were favored in

participation in mathematics and performance on the SAT-M and other tests. (college)

Berg, Cynthia; Hertzog, Christopher; and Hunt, Earl. Age Differences in the Speed of Mental Rotation. Developmental Psychology 18: 95-107; January 1982. [adults]

Bergan, John R.; Towstopiat, Olga; Cancelli, Anthony A.; and Karp, Cheryl. Replacement and Component Rules in Hierarchically Ordered Mathematics Rule Learning Tasks. Journal of Educational Psychology 74: 39-50; February 1982.

Children applied rules that were adequate for simple problems but had to be replaced to solve more complex problems. (grades 2-4)

Birenbaum, Menucha and Tatsuoka, Kikumi K. On the Dimensionality of Achievement Test Data. Journal of Educational Measurement 19: 259-266; Winter 1982.

An increment in the number of algorithms underlying the responses on a test affected the dimensionality of the data. (grade 7)

Blakenship, Colleen S. and Baumgartner, Maureen D. Programming Generalization of Computational Skills. Learning Disability Quarterly 5: 152-162; Spring 1982.

Demonstration and modeling plus feedback were sufficient to increase some students' ability to generalize; others required more interventions. (ages 8-11)

Bloom, Benjamin S. The Role of Gifts and Markers in the Development of Talent. Exceptional Children 48: 510-522; April 1982. [elementary, secondary]

Boersma, Frederic J. and Chapman, James W. Teachers' and Mothers' Academic Achievement Expectations for Learning Disabled Children. Journal of School Psychology 20: 216-221; Fall 1982. [grade 3]

Booth, Lesley R. Ordering Your Operations. Mathematics in School 11: 5-6; May 1982.

Students' ordering of operations and use of brackets was found to be ambiguous. (forms 2-5)

Brady, Laurie. Curriculum Models and Curriculum Commonplaces. Journal of Curriculum Studies 14: 197-200; April-June 1982. [in-service teachers]

Bragman, Ruth and Hardy, Robert C. The Relationship Between Arithmetic and Reading Achievement and Visual Pattern Recognition in First Grade Children. Alberta Journal of Educational Research 28: 44-50; March 1982. [grade 1]

Breland, Hunter M. and Griswold, Philip A. Use of a Performance Test as a Criterion in a Differential Validity Study. Journal of Educational Psychology 74: 713-721; October 1982. [college]

Bridgeman, Brent. Comparative Validity of the College Board Scholastic Aptitude Test--Mathematics and the Descriptive Tests of Mathematics Skills for Predicting Performance in College Mathematics Courses. Educational and Psychological Measurement 42: 361-366; Spring 1982.

For remedial level courses, the DTMS appeared more valid than SAT-M scores for predicting course grades. For more advanced courses, higher-level DTMS tests were as accurate for prediction as the SAT-M. (college)

Brock, Herman. Factor Structure of Intellectual and Achievement Measures for Learning Disabled Children. Psychology in the Schools 19: 297-304; July 1982. [grades 3-6]

Brulle, Andrew R. and Brulle, Christine G. Basic Computational Facts: A Problem and a Procedure. Arithmetic Teacher 29: 34-36; March 1982.

Drill tests on addition and multiplication facts improved achievement for retarded, disturbed, and disabled students. (ages 10-16)

Bulmahn, Barbara J. and Young, David M. On the Transmission of Mathematics Anxiety. Arithmetic Teacher 30: 55-56; November 1982.

Reactions of preservice teachers to mathematics were surveyed. (elementary preservice)

Buriel, Raymond. Mexican- and Anglo American Children's Locus of Control and Achievement in Relation to Teachers' Attitudes. Journal of Genetic Psychology 140: 131-143; March 1982. [grades 4, 5]

Burke, Michael J. A Path Analytic Model of the Direct and Indirect Effects of Mathematical Aptitude and Academic Orientation on High School and College Performance. Educational and Psychological Measurement 42: 545-550; Summer 1982.

Mathematical aptitude exerted most of its effect on college performance directly. (college)

Burnett, Sarah A.; Lane, David M.; and Dratt, Lewis M. Spatial Ability and Handedness. Intelligence 6: 57-68; January-March 1982. [college]

Burton, Grace M. and Burton, John R. A Question of Values: Consumer Education in the Mathematics Classroom. School Science and Mathematics 82: 163-169; February 1982.

NAEP data on consumer applications are included in the discussion. (adults)

Burton, Nancy W. and Jones, Lyle V. Recent Trends in Achievement Levels of Black and White Youth. Educational Researcher 11: 10-14; April 1982. [ages 9, 13]

Bush, William S. and Davis, Edward J. Reflections on a Secondary Mathematics Teacher Education Program: Responses from a Survey.

Journal of Research and Development in Education 15: 55-62; Summer 1982.

Graduates' responses to a survey asking them to rate the usefulness of courses in the undergraduate program are reported. (secondary in-service)

Button, K. J. and Fleming, M. C. The Predictive Power of A-Level Attainment--A Case Study. Educational Research 24: 147-149; February 1982. [college]

Cameron, Catherine Ann and Goard, Carolyn. Procedural Factors in Children's Class Inclusion. Journal of Genetic Psychology 140: 313-314; June 1982. [grades 1, 3]

Cancelli, Anthony A.; Bergan, John R.; and Jones, Sarah. Psychometric and Instructional Validation Approaches in the Hierarchical Sequencing of Learning Tasks. Journal of School Psychology 20: 232-243; Fall 1982.

The psychometric approach yielded results similar to the instructional approach for validating a subtraction hierarchy. (grade 2)

Carman, Gary O. and Kosberg, Bernard. Educational Technology Research: Computer Technology and the Education of Emotionally Handicapped Children. Educational Technology 22: 26-30; February 1982.

The groups using computers made significant mathematics achievement gains during the first and second eight-week periods, but neither computer nor non-computer groups gained significantly in the third period, and no significant differences were found on October and June test scores. (ages 7-14)

Carnine, Douglas and Gersten, Russell. Effective Mathematics Instruction for Low-Income Students: Results of Longitudinal Field Research in 12 School Districts. Journal for Research in Mathematics Education 13: 145-152; March 1982.

Data on mathematics from the evaluation of Follow Through programs are reported. (elementary)

Carpenter, Thomas P.; Corbitt, Mary Kay; Kepner, Henry S., Jr.; Lindquist, Mary Montgomery; and Reys, Robert E. Student Performance in Algebra: Results from the National Assessment. School Science and Mathematics 82: 514-531; October 1982.

Below-mastery-level performance was found on most items. (ages 13, 17)

Cathcart, W. George. Effects of a Bilingual Instructional Program on Conceptual Development in Primary School Children. Alberta Journal of Educational Research 28: 31-43; March 1982.

Bilingual children outperformed their monolingual peers on one of four subtests of both number and measurement tests, and on the use of reversibility as a justification for conservation. (grades 1-3)

Clark-Meeks, Loretta F.; Quisenberry, Nancy L.; and Mouw, John T. A Look at the Mathematics Attitudes of Prospective Teachers in Four Concentration Areas. School Science and Mathematics 82: 317-320; April 1982.

No significant difference in mathematics attitude was found between preschool, K-3, 4-9, and special education majors. (elementary preservice)

Chavez, Annette and Widmer, Connie Carroll. Math Anxiety: Elementary Teachers Speak for Themselves. Educational Leadership 39: 387-388; February 1982.

Only 17 per cent of the female teachers and eight per cent of the male teachers were categorized as "math anxious". Most were generally positive about teaching mathematics. (elementary in-service)

Clement, John. Algebra Word Problem Solutions: Thought Processes Underlying a Common Misconception. Journal for Research in Mathematics Education 13: 16-30; January 1982.

Many college students produce reversal errors in formulating algebraic equations. Sources of the errors were identified. (college freshmen)

Clements, M. A. Careless Errors Made by Sixth-Grade Children on Written Mathematical Tasks. Journal for Research in Mathematics Education 13: 136-144; March 1982.

The proportion of careless errors correlated significantly with measures of arithmetical competence, mathematical language, and mathematical confidence. (grade 6)

Commons, Michael L.; Miller, Patrice M.; and Kuhn, Deanna. The Relation Between Formal Operational Reasoning and Academic Course Selection and Performance Among College Freshmen and Sophomores. Journal of Applied Developmental Psychology 3: 1-10; January-March 1982.

Few concrete operational students took science/mathematics courses. (college)

Cook, Cathy J. and Dossey, John A. Basic Fact Thinking Strategies for Multiplication--Revisited. Journal for Research in Mathematics Education 13: 163-171; May 1982.

The thinking strategies approach produced greater overall learning growth for multiplication facts than did the factor size approach of a textbook. (grade 3)

Cotterell, John L. Instructional Approaches in Relation to Student Behavior: A Matter of Adaptiveness. Journal of Educational Research 75: 333-338; July/August 1982. [grade 8]

Cotugno, Albert J. Cognitive Control Methods in the Treatment of Special Education Children. Psychology in the Schools 19: 517-525; October 1982. [elementary]

Cuneo, Diane O. Children's Judgments of Numerical Quantity: A New View of Early Quantification. Cognitive Psychology 14: 13-44; January 1982. [ages 3-9]

Darakjian, Gregory P. and Michael, William B. Comparative Validities of Standardized Academic Self-Concept Scales and Achievement Test Measures and of Teacher Ratings of Citizenship and Effort in Forecasting Performance of Junior High School Students. Educational and Psychological Measurement 42: 629-641; Summer 1982. [grade 8]

Davis, O. L., Jr.; Frymier, Jack R.; and Clinefelter, David. Curriculum Materials Used by Eleven-Year-Old Pupils: An Analysis Using the Annehurst Curriculum Classification System. Journal of Educational Research 75: 325-332; July/August 1982. [grade 5 (age 11)]

Dekkers, J.; Malone, J.; de Laeter, J. R.; and Hamlett, B. Mathematics Enrolment Patterns in Australian Secondary Schools--Male Female Trends. Australian Mathematics Teacher 38: 7-10; December 1982. [secondary]

Devine, Patrick J. and Raju, Nambury S. Extent of Overlap Among Four Item Bias Methods. Educational and Psychological Measurement 42: 1049-1066; Winter 1982. [grades 5-7]

Dombrower, Jule; Favero, Jane; King, Margaret; and Dombrower, Edward. The Criterion-Related Validity of Two Tests Hypothesized to Represent Left Brain and Right Brain Function for a Group of Elementary School Children. Educational and Psychological Measurement 42: 927-933; Fall 1982. [grades 2-4]

Drew, Barry M.; Evans, Joseph H.; Bostow, Darrel E.; Geiger, Glenn; and Drash, Philip W. Increasing Assignment Completion and Accuracy Using a Daily Report Card Procedure. Psychology in the Schools 19: 540-547; October 1982. [grade 3]

Dreyfus, Tommy and Eisenberg, Theodore. Intuitive Functional Concepts: A Baseline Study on Intuitions. Journal for Research in Mathematics Education 13: 360-380; November 1982.

Different groups were found to possess different intuitions on the concepts, but these intuitions were independent of the settings and the levels of abstraction. (grades 6-9)

Edge, Douglas and Ashlock, Robert B. Using Multiple Embodiments of Place Value Concepts. Alberta Journal of Educational Research 28: 267-276; September 1982.

No significant differences were found between groups using multiple or single embodiments for place value with three-digit numbers. (grade 2)

Ehindero, O. J. Correlates of Sex-Related Differences in Logical Reasoning. Journal of Research in Science Teaching 19: 553-557; October 1982. [secondary]

Eisenberger, Robert; Masterson, Fred A.; and McDermitt, Maureen. Effects of Task Variety on Generalized Effort. Journal of Educational Psychology 74: 499-505; August 1982. [college]

Engelhardt, Jon M. Using Computational Errors in Diagnostic Teaching. Arithmetic Teacher 29: 16-19; April 1982.

Types of numeration and computation errors are described. (grade 4)

Epps, Susan; McGue, Matthew; and Ysseldyke, James E. Interjudge Agreement in Classifying Students as Learning Disabled. Psychology in the Schools 19: 209-220; April 1982. [grade 4]

Evertson, Carolyn M. Differences in Instructional Activities in Higher- and Lower-Achieving Junior High English and Math Classes. Elementary School Journal 82: 329-350; March 1982.

It was harder to obtain and maintain the cooperation of students and to keep them engaged on academic tasks in lower-ability classes. Teachers did not tend to differentiate their patterns of instructional activities between high- and low-ability classes. (teachers in grades 7, 8)

Evertson, Carolyn M. and Emmer, Edmund T. Effective Management at the Beginning of the School Year in Junior High Classes. Journal of Educational Psychology 74: 485-498; August 1982.

The beginning of the year is a crucial time for establishing effective classroom management. (teachers in junior high)

Fendrich-Salowey, Gail; Buchanan, Mary; and Drew, Clifford J. Mathematics, Quantitative and Attitudinal Measures for Elementary School Boys and Girls. Psychological Reports 51: 155-162; August 1982.

No significant achievement differences were found between boys and girls. (grades 5, 6)

Fitz-Gibbon, Carol and Clark, K. S. Time Variables in Classroom Research: A Study of Eight Urban Secondary School Mathematics Classes. British Journal of Educational Psychology 52: 301-316; November 1982. [secondary]

Fogarty, Joan L. and Wang, Margaret C. An Investigation of the Cross-Age Peer Tutoring Process: Some Implications for Instructional Design and Motivation. Elementary School Journal 82: 451-469; May 1982.

The lessons provided by peer tutors had a positive effect on tutees' mathematics achievement. (grades K-8)

Ford, Marilyn Sue; Walkington, Patricia A.; and Bitter, Gary G. Gifted Education--Enrichment or Acceleration?--Computers Provide Both! Journal of Computers in Mathematics and Science Teaching 2: 18-19; Fall 1982.

Students gained significantly in computer literacy during a five-week summer session. (grades 5-8)

Forsyth, Robert A. and Ansley, Timothy N. The Importance of Computational Skill for Answering Items in a Mathematics Problem-Solving Test: Implications for Construct Validity. Educational and Psychological Measurement 42: 257-263; Spring 1982.

Scores on the Quantitative Thinking test of the ITED were not affected by the use of calculators. (grades 9, 11)

Frank, Alan R.; Logan, Henrietta L.; and Martin, David J. LD Students' Subtraction Errors. Learning Disability Quarterly 5: 194-196; Spring 1982.

Students with mathematics goals did significantly poorer on tests than did those without goals. Systematic error patterns were more common than random error patterns, especially for problems with zeros. (ages 8-13)

Freeman, Donald J.; Kuhs, Therese M.; Knappen, Lucy B.; and Porter, Andrew C. A Closer Look at Standardized Tests. Arithmetic Teacher 29: 50-54; March 1982.

The content covered by four standardized mathematics tests was examined, with significant differences found. (elementary)

Galbraith, P. L. The Mathematical Vitality of Secondary Mathematics Graduates and Prospective Teachers: A Comparative Study. Educational Studies in Mathematics 13: 89-112; February 1982. [college]

Gash, Hugh. Associated Structures: Class Inclusion and Role-Taking. Journal of Genetic Psychology 141: 155-166; December 1982. [ages 5, 7]

Genshaft, Judy L. The Use of Cognitive Behavior Therapy for Reducing Math Anxiety. School Psychology Review 11: 32-34; Winter 1982.

Tutoring and self-instruction resulted in increased ranked preferences for mathematics, while mathematics achievement increased more for the self-instruction group. (grade 7)

Giannitrapani, Duilio. Localization of Language and Arithmetic Functions via EEG Factor Analysis. Research Communications in Psychology, Psychiatry and Behavior 7: 39-55; 1982.

Mental arithmetic-related functions were primarily bilateral. (ages 11-13)

Goddard, M. Lee. Deficiencies in Basic Knowledge and Skills Among High School Business Education Seniors. Ohio Business Teacher 42: 73-86; April 1982. [grade 12]

Goldstein, Harris S. Fathers' Absence and Cognitive Development of 12- to 17-Year-Olds. Psychological Reports 51: 843-848; December (Part I) 1982. [ages 12-17]

Gonzalez, Esther G. and Kolers, Paul A. Mental Manipulation of Arithmetic Symbols. Journal of Experimental Psychology: Learning, Memory and Cognition 8: 308-319; July 1982.

Students seemed to apply different mental operations to Roman and Arabic numerals. (college)

Gottfried, Adele Eskeles. Relationships Between Academic Intrinsic Motivation and Anxiety in Children and Young Adolescents. Journal of School Psychology 20: 205-215; Fall 1982. [grades 4, 7]

Graziano, William G.; Musser, Lynn Mather; Rosen, Sidney; and Shaffer, David R. The Development of Fair-Play Standards in Same-Race and Mixed-Race Situations. Child Development 53: 938-947; August 1982. [grades 1, 3, 5]

Grise, Philip; Beattie, Susan; and Algozzine, Bob. Assessment of Minimum Competency in Fifth Grade Learning Disabled Students: Test Modifications Make a Difference. Journal of Educational Research 76: 35-40; September/October 1982. [grade 5]

Grossnickle, Donald R.; Laird, Bruce A.; Cutter, Thomas W.; and Tefft, James A. Profile of Change in Education: A High School Faculty Adopts/Rejects Microcomputers. Educational Technology 22: 17-19; June 1982. [secondary teachers]

Guttman, Ruth and Shoham, Ilana. The Structure of Spatial Ability Items: A Faceted Analysis. Perceptual and Motor Skills 54: 487-493; April 1982. [secondary, adults]

Hagan, Ronald D. Factors Influencing Arithmetic Performance on the Tennessee State-Mandated Eighth Grade Basic Skills Test. School Science and Mathematics 82: 490-505; October 1982.

The proportion of teachers teaching each arithmetic topic in grades 1-8 is reported. (teachers in grades 1-8)

Harris, Walter J. and King, Dennis R. Achievement, Sociometric Status, and Personality Characteristics of Children Selected by Their Teachers as Having Learning and/or Behavior Problems. Psychology in the Schools 19: 452-457; October 1982. [grades 4, 5]

Hart, K.; Booth, L.; and Turner, A. D. Mathematics-Science Links in the Secondary School: Collaboration Between Mathematics and Science Departments...Liaison. Mathematics in School 11: 2-3; September 1982. [secondary]

Hart, K.; Turner, A. D.; and Booth, L. Mathematics-Science Links in the Secondary School: Case Studies of Four Schools--Part 2. Mathematics in School 11: 10-12; May 1982. [secondary]

Hart, Kath. Tell Me What You Are Doing. Mathematics Teaching 99: 32-37; June 1982.

Types of information obtained from interviews that would not be obtained from paper-and-pencil tests are discussed, with specific illustrations. (secondary)

Hashway, Robert M. Extending Mastery Learning Systems: The

Sequencing of Mathematics Content. Illinois School Research and Development 18: 24-31; Winter 1982.

Analysis of placement test data indicated that the sequence of mathematical skills areas should be somewhat altered in order for students to reach optimal achievement levels. (secondary, college)

Hiebert, James. The Position of the Unknown Set and Children's Solutions of Verbal Arithmetic Problems. Journal for Research in Mathematics Education 13: 341-349; November 1982.

The position of the unknown set had a "profound" effect on children's modeling behavior, which affected their choice of solution process and the relative difficulty of the problem. (grade 1)

Hiebert, James; Carpenter, Thomas P.; and Moser, James M. Cognitive Development and Children's Solutions to Verbal Arithmetic Problems. Journal for Research in Mathematics Education 13: 83-98; March 1982.

While significant differences in performance were found between developmental groups on some cognitive variables, none was required to solve the addition and subtraction problems or to use a given solution strategy. (grade 1)

Hill, Gayle W. Group Versus Individual Performance: Are n + 1 Heads Better Than One? Psychological Bulletin 91: 517-539; May 1982. [grades 5, 6, adults?]

Hofmann, Richard J. and Trepanier, Mary L. A Cross-Cultural Influence on Some Basic Graphic Representations of Young Chinese and American Children. Journal of Genetic Psychology 141: 167-175; December 1982. [ages 4-6]

Holzman, Thomas G.; Pellegrino, James W.; and Glaser, Robert. Cognitive Dimensions of Numerical Rule Induction. Journal of Educational Psychology 74: 360-373; June 1982.

A combination of process and content knowledge factors accounted for more than 70 per cent of the variance in number analogy item difficulty. (grades 4, 5, college)

Horak, Virginia M. and Horak, Willis J. The Influence of Student Locus of Control and Teaching Method on Mathematics Achievement. Journal of Experimental Education 51: 18-21; Fall 1982.

Internal students achieved higher when taught with an inductive method, while external students achieved higher with a deductive method. (college)

Houtz, John C. and Shaning, Dennis J. Contribution of Teacher Ratings of Behavioral Characteristics to the Prediction of Divergent Thinking and Problem Solving. Psychology in the Schools 19: 380-383; July 1982. [grades 4-6]

Hoyles, Celia. The Pupil's View of Mathematics Learning. Educational Studies in Mathematics 13: 349-372; November 1982.

About 40 per cent of the stories told by London children about good and bad learning experiences were about mathematics. One-third of all good stories and one-half of all bad stories concerned mathematics. (age 14)

Hudson, Lynne M.; Guthrie, Karen H.; and Santilli, Nicholas R. The Use of Linguistic and Nonlinguistic Strategies in Kindergartners' Interpretations of "More" and Less". Journal of Child Language 9: 125-138; February 1982.

Errors on less, and correct choices of more, were often determined by the nonlinguistic strategy of choosing the greater amount. (grade K)

Hurley, Alfred, Jr. Effect of General Attentional and Specific-Relevant Cue Training on Several Piagetian Tasks of Number Development. Journal of Genetic Psychology 141: 67-81; September 1982. [grade K]

Ibarra, Cheryl Gibbons and Lindvall, C. Mauritz. Factors Associated with the Ability of Kindergarten Children to Solve Simple Arithmetic Story Problems. Journal of Educational Research 75: 149-155; January/February 1982.

Most children could use counting to solve the problems. Success was related to the extent to which manipulative materials were involved and to certain characteristics of the problem itself. (grade K)

Jaeger, Richard M. and Wolf, Marian B. The Effect of Stimulus Format on Discriminability in School Surveys. Journal of Educational Measurement 19: 163-178; Fall 1982. [elementary parents]

Johnson, David W. and Johnson, Roger T. The Effects of Cooperative and Individualistic Instruction on Handicapped and Nonhandicapped Students. Journal of Social Psychology 118: 257-268; December 1982.

Cooperative grouping (in mathematics) promoted more cross-handicapped interaction and higher achievement than did individualistic instruction. (grade 11)

Jones, Peter L. Learning Mathematics in a Second Language: A Problem with More and Less. Educational Studies in Mathematics 13: 269-287; August 1982. [grades 2, 4, 6, 8, 10]

Joseph, Cuthbert H. and Maguire, Thomas O. The Interaction Between Time of Feedback and Academic Self-Concept on Level of Performance in Arithmetic Skill. Journal of Educational Research 75: 360-365; July/August 1982.

Delayed feedback appeared to benefit pupils of low perceived ability. (grade 4)

Kagan, Spencer and Zahn, G. Lawrence. Generalized Maternal Reinforcement and Children's Reading Achievement, Math Achievement, and Field Independence. Journal of Genetic Psychology 141: 93-104;

September 1982. [grades 2, 3 (ages 7-9)]

Kaplan, Barbara J. and Plake, Barbara S. Sex Differences in Mathematics: Differences in Basic Logical Skills? Educational Studies 8: 31-36; 1982.

Abstractions, proportions, probability, and solution of variables accounted for 51 per cent of the variation in male and female scores. (college)

Karat, John. A Model of Problem Solving with Incomplete Constraint Knowledge. Cognitive Psychology 14: 538-559; October 1982. [?]

Karweit, Nancy and Slavin, Robert E. Time-On-Task: Issues of Timing, Sampling, and Definition. Journal of Educational Psychology 74: 844-851; December 1982. [grades 2-5]

Kavale, Kenneth. A Comparison of Learning Disabled and Normal Children on the Boehm Test of Basic Concepts. Journal of Learning Disabilities 15: 160-161; March 1982.

The LD first graders had a lower level as well as greater variability in their understanding of basic concepts. The greatest discrepancy occurred on concepts of quantity and space. (grade 1)

Khoury, Helen Adi and Behr, Merlyn. Student Performance, Individual Differences, and Modes of Representation. Journal for Research in Mathematics Education 13: 3-15; January 1982.

Symbolic mode retention test scores accounted for 69 per cent of the variability. Spatial visualization was a significant interactive factor. (elementary preservice)

Klausmeier, Herbert J. and Sipple, Thomas S. Factor Structure of the Piagetian Stage of Concrete Operations. Contemporary Educational Psychology 7: 161-180; April 1982. [elementary]

Konarski, Edward A.; Crowell, Charles R.; Johnson, Moses R.; and Whitman, Thomas L. Response Deprivation, Reinforcement, and Instrumental Academic Performance in an EMR Classroom. Behavior Therapy 13: 94-107; January 1982. [ages 7-10 (EMRs)]

Koop, Janice B. Calculator Use in the Community College Arithmetic Course. Journal for Research in Mathematics Education 13: 50-60; January 1982.

The calculator treatment was superior for younger students and women and the traditional treatment was superior for older students and men. (community college)

Kornbluth, Jerry A. and Sabban, Yitzchak P. The Effect of Cognitive Style and Study Method on Mathematical Achievement of Disadvantaged Students. School Science and Mathematics 82: 132-140; February 1982.

Field-independent students had higher achievement than field-dependent students in the group-study method; no significant difference was found in the individualized-study method. (grade 5)

Kraus, William H. The Use of Problem-Solving Heuristics in the Playing of Games Involving Mathematics. Journal for Research in Mathematics Education 13: 172-182; May 1982.

Graduate-level students perceived the games as problems and used a variety of problem-solving heuristics, while only half the eighth graders did so. (grade 8, college)

Laing, Robert A. and Meyer, Ruth Ann. Transitional Division Algorithms. Arithmetic Teacher 29: 10-12; May 1982.

Types of division errors made by junior high students were noted; how the division is presented in eight elementary textbook series was explored. (grades 7-9)

Lancioni, Giulo E. Employment of Normal Third and Fourth Graders for Training Retarded Children to Solve Problems Dealing with Quantity. Education and Training of the Mentally Retarded 17: 93-102; April 1982. [ages 8-13 (MRs)]

Lancy, David F. and Goldstein, Gayle I. The Use of Nonverbal Piagetian Tasks to Assess the Cognitive Development of Autistic Children. Child Development 53: 1233-1241; October 1982. [ages 4-9]

Leasak, Jerry; Hunt, Dennis; and Randhawa, Bikkar S. Cognitive Processing, Intervention and Achievement. Alberta Journal of Educational Research 28: 257-266; September 1982. [grade 4]

Leder, Gilah C. Mathematics Achievement and Fear of Success. Journal for Research in Mathematics Education 13: 124-135; March 1982.

Changes in fear of success were found to be more complex for girls than boys. (grades 7, 10, 11)

Lee, Kil S. Fourth Graders' Heuristic Problem Solving Behavior. Journal for Research in Mathematics Education 13: 110-123; March 1982.

Students were able to use heuristics appropriately and, in many cases, effectively, with differences found at two substages of concrete operations. (grade 4)

Leechford, Sandra and Rice, Dale R. The Effect of a Calculator-Based Curriculum on Sixth Grade Students' Achievement in Mathematics. School Science and Mathematics 82: 576-580; November 1982.

Pupils using calculators for instruction scored significantly higher on computation and problem solving. No difference was found between students using or not using calculators on the test. (grade 6)

Leon, Manuel. Extent, Multiplying, and Proportionality Rules in Children's Judgments of Area. Journal of Experimental Child Psychology 33: 124-141; February 1982.

Children applied the ratio rule to their judgments of the area of rectangles. (ages 7-11)

Levine, Deborah R. Strategy Use and Estimation Ability of College Students. Journal for Research in Mathematics Education 13: 350-359; November 1982.

Eight types of estimation strategies were identified. A strong relationship was found between quantitative and computational estimation abilities, but neither the number nor type of strategy was related to success at estimating. (college)

Lin, Yi-guang. College Students' Attitudes Toward Mathematics. Perceptual and Motor Skills 54: 460-462; April 1982.

Three items describing mathematics as good mental exercise and valuable mental training were selected by more than 55 per cent in three fields. (college)

Loranger, Michel; Lacroix, Odette; and Kaley, Richard. Validity of Teachers' Evaluations of Students' Social Behavior. Psychological Reports 51: 915-920; December (Part I) 1982. [ages 12-13]

Lorenz, Jenz Holger. On Some Psychological Aspects of Mathematics Achievement Assessment and Classroom Interaction. Educational Studies in Mathematics 13: 1-10; February 1982.

Teachers and students differed in their perceptions of students' characteristics and the influence of these characteristics on performance. Ability and self-concept are important for different reasons. (grade 5)

Low, Benson P. and Clement, Paul W. Relationships of Race and Socioeconomic Status to Classroom Behavior, Academic Achievement, and Referral for Special Education. Journal of School Psychology 20: 103-112; Summer 1982. [grade 4]

Luchins, Abraham S. and Luchins, Edith H. Einstellung Effects in Learning by Repetition: Sex Differences. Genetic Psychology Monographs 106: 319-342; November 1982. [ages 10-12, 15-16, college, adults]

Maher, Charles A. Behavioral Effects of Using Conduct Problem Adolescents as Cross-Age Tutors. Psychology in the Schools 19: 360-364; July 1982. [ages 15-18 (EMRs)]

Mandler, George and Shebo, Billie J. Subitizing: An Analysis of Its Component Processes. Journal of Experimental Psychology: General 111: 1-22; March 1982.

Within few trials, adults responded as fast and accurately to arrays of up to ten as to arrays of one to three. (adults)

Marjoribanks, Kevin. The Relationship of Children's Academic Achievement to Social Status and Family Learning Environment. Educational and Psychological Measurement 42: 651-656; Summer 1982. [age 11]

Mayer, Richard E. Memory for Algebra Story Problems. Journal of Educational Psychology 74: 199-216; April 1982.

Propositions about relations among variables were harder to

remember than those that assigned a value to a variable. Recall was better for schema-relevant than schema-irrelevant information. (college)

McCormack-Larkin, Maureen and Kritek, William J. Milwaukee's Project RISE. Educational Leadership 40: 16-21; December 1982. [grades 3, 5]

McCormick, Rodney V. The Balance Effect on the M-Space by Spatial Interaction. Alberta Journal of Educational Research 28: 113-121; June 1982. [college]

Meece, Judith L.; Parsons, Jacquelynne; Kaczala, Caroline M.; Goff, Susan B.; and Futterman, Robert. Sex Differences in Math Achievement: Toward a Model of Academic Choice. Psychological Bulletin 91: 324-348; March 1982.

Common explanations for the fact that fewer women than men elect to take advanced mathematics courses and enter mathematically oriented careers are summarized. (secondary, college)

Melrose, Jean. The Mathematical Association Diploma Research Project--Part I. Mathematics in School 11: 42-43; November 1982. [teachers for ages 5-13]

Meltzer, Lynn J. Visual Perception: Stage One of a Long-Term Investigation Into Cognitive Components of Achievement. British Journal of Educational Psychology 52: 144-154; June 1982. [ages 6-8]

Messerer, Jeffrey and Brown, Laurence. The Relationship Between IQ and Piagetian Task Performance During the Preoperational-Concrete Operational Stage Transition: A Test of a Maturational Hypothesis. Journal of Genetic Psychology 141: 145-146; September 1982. [ages 6, 8]

Mestre, Jose P.; Gerace, William J.; and Lochhead, Jack. The Interdependence of Language and Translational Math Skills Among Bilingual Hispanic Engineering Students. Journal of Research in Science Teaching 19: 399-410; May 1982.

Achievement on a mathematical translation task was more strongly correlated with language proficiency for the bilingual group than for monolingual students. (college)

Monk, David H. Resource Allocation in Classrooms: An Economic Analysis. Journal of Curriculum Studies 14: 167-181; April-June 1982. [grade 5]

Moore, DeWayne and Riemer, Barbara S. Relationship Between Achievement Judgments and Cognitive Maturity. Journal of Genetic Psychology 141: 197-201; December 1982. [grades 1, 3]

Moser, James M. and Carpenter, Thomas P. Young Children Are Good Problem Solvers. Arithmetic Teacher 30: 24-26; November 1982.

Strategies used to solve addition and subtraction problems are described. (grades 1-3)

Muller, Douglas; Foster, Glenda; and Wooden, Sharon. Academic Achievement of Sixth Graders Matched for Intelligence But Not for Self-Concept. Psychological Reports 51: 273-274; August 1982. [grade 6]

Murphy, R. J. L. A Further Report of Investigations into the Reliability of Marking of GCE Examinations. British Journal of Educational Psychology 52: 58-63; February 1982. [secondary]

Murphy, R. J. L. Sex Differences in Objective Test Performance. British Journal of Educational Psychology 52: 213-219; June 1982. [secondary]

Murray, Frank B. Pedagogical Adequacy of Children's Conservation Explanations. Journal of Educational Psychology 74: 656-659; October 1982. [grades 1-5, college]

Nevin, Ann; Johnson, David W.; and Johnson, Roger. Effects of Group and Individual Contingencies on Academic Performance and Social Relations of Special Needs Students. Journal of Social Psychology 116: 41-59; February 1982. [grades 1, 7, 9]

Northam, Jean. Girls and Boys in Primary Maths Books. Education 3-13 10: 11-14; Spring 1982. [ages 3-13]

Nyberg, Verner R. and Clarke, S. C. T. School Subjects Attitude Scales. Alberta Journal of Educational Research 28: 175-187; June 1982. [grades 5, 8]

Onyejiaku, Felix Okeke. Cognitive Styles, Instructional Strategies, and Academic Performance. Journal of Experimental Education 51: 31-37; Fall 1982. [ages 13-15]

Owens, Lee and Barnes, Jennifer. The Relationships Between Cooperative, Competitive, and Individualized Learning Preferences and Students' Perceptions of Classroom Learning Atmosphere. American Educational Research Journal 19: 182-200; Summer 1982. [grades 7, 11]

Paine, Stan C.; Carnine, Douglas W.; White, William A.; and Walters, Gerald. Effects of Fading Teacher Presentation Structure (Covertization) on Acquisition and Maintenance or Arithmetic Problem-Solving Skills. Education and Treatment of Children 5: 93-107; Spring 1982.

Four pupils attained an algorithm with "fading" of the presentation structure. (age 8)

Parsons, Jacquelynne Eccles. Sex Differences in Attributions and Learned Helplessness. Sex Roles: A Journal of Research 8: 421-432; April 1982.

Results varied, depending on the research method employed, but did not (when taken together) support the hypothesis that girls are more "learned helpless" in mathematics than are boys. (secondary)

Parsons, Jacquelynne Eccles; Adler, Terry F.; and Kaczala, Caroline M. Socialization of Achievement Attitudes and Beliefs: Parental Influences. Child Development 53: 310-321; April 1982.

Differing perceptions and expectations for boys' and girls' mathematics attainment were held by parents, and children's attitudes were influenced more by parents' attitudes than by their own past performances. (grades 5-11, parents)

Parsons, Jacquelynne Eccles; Kaczala, Caroline M.; and Meece, Judith L. Socialization of Achievement Attitudes and Beliefs: Classroom Influences. Child Development 53: 322-339; April 1982.

Few sex differences were found in teacher-student interaction patterns, although teacher behaviors did influence boys and girls differently. (teachers in grades 5-9)

Pennington, Bruce F.; Bender, Bruce; Puck, Mary; Salbenblatt, James; and Robinson, Arthur. Learning Disabilities in Children with Sex Chromosome Anomalies. Child Development 53: 1182-1192; October 1982. [ages 7-16]

Perl, Teri Hoch. Discriminating Factors and Sex Differences in Electing Mathematics. Journal for Research in Mathematics Education 13: 66-74; January 1982.

Ability and previous mathematics achievement were the most important variables found to affect NLSMA data, although sex differences were found on other factors. (grades 7-12)

Peterson, Penelope L. and Swing, Susan R. Beyond Time on Task: Students' Reports of Their Thought Processes During Classroom Instruction. Elementary School Journal 82: 481-491; May 1982.

Pupils' reported thought processes appear to be better predictors of student achievement than observations of student behavior. (grades 5, 6)

Peterson, Penelope L.; Swing, Susan R.; Braverman, Marc T.; and Buss, Ray. Students' Aptitudes and Their Reports of Cognitive Processes During Direct Instruction. Journal of Educational Psychology 74: 535-547; August 1982.

Reported processes used in a two-day unit on probability were significantly related to achievement. (grades 5, 6)

Petitto, Andrea L. Practical Arithmetic and Transfer: A Study Among West African Tribesmen. Journal of Cross-Cultural Psychology 13: 15-28; March 1982. [ages 20-50]

Petitto, Andrea L. and Ginsburg, Herbert P. Mental Arithmetic in Africa and America: Strategies, Principles, and Explanations. International Journal of Psychology 17: 81-102; March 1982.

Both groups showed accurate mental arithmetic strategies related to the base-10 structure of their counting systems, with Americans also making use of algorithms. (ages 20-35, college)

Piotrkowski, Chay A. and Katz, Mitchell H. Indirect Socialization of Children: The Effects of Mothers' Jobs on Academic Behaviors. Child Development 53: 1520-1529; December 1982. [ages 10-17]

Plake, Barbara S.; Ansorge, Charles J.; Parker, Claire S.; and Lowry, Steven R. Effects of Item Arrangement, Knowledge of Arrangement Test Anxiety and Sex on Test Performance. Journal of Educational Measurement 19: 49-57; Spring 1982. [college]

Plake, Barbara S. and Parker, Claire S. The Development and Validation of a Revised Version of the Mathematics Anxiety Rating Scale. Educational and Psychological Measurement 42: 551-557; Summer 1982.

The shortened scale correlated .97 with the full scale, and had a reliability estimate of .98. (college)

Posamentier, Alfred S. and Stepelman, Jay. A Shortage of Mathematics Teachers in New York City. Mathematics Teacher 75: 588-590; October 1982.

A 53 per cent decline in the number of students majoring in mathematics or mathematics education was found. (secondary, college)

Posner, Jill K. The Development of Mathematical Knowledge in Two West African Societies. Child Development 53: 200-208; February 1982. [ages 5-10]

Powers, Stephen and Sanchez, Virginia V. Correlates of Self-Esteem of Mexican American Adolescents. Psychological Reports 51: 771-774; December (Part I) 1982. [grade 7]

Raschke, Donna; Stainback, Susan; and Stainback, William The Predictive Capabilities of Three Sources for a Promised Consequence. Behavioral Disorders 7: 213-218; August 1982. [ages 8-16]

Resnick, Harvey; Viehe, John; and Segal, Sanford. Is Math Anxiety a Local Phenomenon? A Study of Prevalence and Dimensionality. Journal of Counseling Psychology 29: 39-47; January 1982.

Most students reported low levels of math anxiety, and no large sex differences were found. (college freshmen)

Reys, Robert E.; Rybolt, James F.; Bestgen, Barbara J.; and Wyatt, J. Wendell. Processes Used by Good Computational Estimators. Journal for Research in Mathematics Education 13: 183-201; May 1982.

Good estimators used several key processes (compensation, reformulation, and translation) interwoven with a variety of distinct estimation strategies. (grades 7-12, adults)

Roberts, Dennis M. and Saxe, Joseph E. Validity of a Statistics Attitude Survey: A Follow-Up Study. Educational and Psychological Measurement 42: 907-912; Fall 1982. [college]

Rogers, K. W. Regression in the Performance of Australian Boys and Girls on a Volume Conservation Task. Journal of Genetic Psychology

140: 221-228; June 1982. [grade 4]

Ross, Dorothy and Carnine, Douglas. Analytic Assistance: Effects of Example Selection, Subjects' Age and Syntactic Complexity. Journal of Educational Research 75: 294-298; May/June 1982. [grades 2, 3, 5]

Ross, Steven M. and Rakow, Ernest A. Adaptive Instructional Strategies for Teaching Rules in Mathematics. ECTJ 30: 67-74; Summer 1982.

Learning improved when incentives were varied within a task according to individual needs. (college)

Rossmiller, Richard A. Use of Resources: Does It Influence Student Achievement? Educational Perspectives 21: 23-32; Spring 1982. [grade 3]

Rotenberg, Ken J. Development of Character Constancy of Self and Other. Child Development 53: 505-515; April 1982. [grades K-3]

Roundtree, George A.; et al. The Effects of Education on Self-Esteem of Male Prison Inmates. Journal of Correctional Education 32: 12-18; January 1982. [adults]

Rudisill, E. Murray; Yarborough, Betty H.; and Johnson, Roger A. Nongraded Instruction, Mathematics Ability, and Mathematics Achievement in Elementary Schools. Journal for Research in Mathematics Education 13: 61-66; January 1982.

No significant differences in achievement were found between groups who had had graded or non-graded instruction. (grade 7)

Russell, James. Cognitive Conflict, Transmission, and Justification: Conservation Attainment Through Dyadic Interaction. Journal of Genetic Psychology 140: 283-297; June 1982. [ages 4-8]

Russell, James. Facilitation of Children's Allocentric Placement by Reducing Task Complexity and Providing a Verbal Rule. Journal of Genetic Psychology 141: 203-212; December 1982. [ages 5-6]

Rust, James O.; et al. Predicting Reading and Arithmetic Achievement by Using Bender Gestalt and Visual Memory Technique. Reading Improvement 19: 74-83; Spring 1982. [grade 1]

Sandoval, Jonathan. Light's Retention Scale Does Not Predict Success in First-Grade Retainees. Psychology in the Schools 19: 310-314; July 1982. [grade 1]

Saracho, Olivia N. The Effects of a Computer-Assisted Instruction Program on Basic Skills Achievement and Attitudes Toward Instruction of Spanish-Speaking Migrant Children. American Educational Research Journal 19: 201-219; Summer 1982. [grades 3-6]

Sawada, Daiyo. Multisensory Information Matching Ability and Mathematics Learning. Journal for Research in Mathematics Education

13: 390-394; November 1982.

Haptic matching ability was found useful in accounting for mathematics achievement both within and across modalities. (grade 3)

Saxe, Geoffrey B. Developing Forms of Arithmetic Thought Among the Oksapmin of Papua New Guinea. Developmental Psychology 18: 583-594; July 1982. [ages 20-50]

Saxe, Geoffrey B. and Moylan, Thomas. The Development of Measurement Operations Among the Oksapmin of Papua New Guinea. Child Development 53: 1242-1248; October 1982. [unschooled; grades 2, 6; adults]

Saxon, John. Incremental Development: A Breakthrough in Mathematics. Phi Delta Kappan 63: 482-484; March 1982.

Data from a pilot study on two textbook approaches to algebra are reported. (grade 9)

Schoenfeld, Alan H. Measures of Problem-Solving Performance and of Problem-Solving Instruction. Journal for Research in Mathematics Education 13: 31-49; January 1982.

Evidence that a problem-solving course can produce strong changes in students' problem-solving behavior is provided. (college)

Schofield, Hilary L. Sex, Grade Level, and the Relationship Between Mathematics Attitude and Achievement in Children. Journal of Educational Research 75: 280-284; May/June 1982.

Relationships between attitudes and achievement were significantly stronger for boys than girls, with computation than concepts, and late in the school year than early. (grades 3-6)

Schunk, Dale H. Effects of Effort Attributional Feedback on Children's Perceived Self-Efficacy and Achievement. Journal of Educational Psychology 74: 548-556; August 1982.

Attributional feedback for past achievement led to more rapid progress in mastering subtraction, greater skill development, and higher self-efficacy than did feedback on future achievement or no feedback. (ages 7-10)

Serow, Robert C. and Davies, James J. Resources and Outcomes of Minimum Competency Testing as Measures of Equality of Educational Opportunity. American Educational Research Journal 19: 529-539; Winter 1982. [grade 11]

Sesnowitz, Michael; Bernhardt, Kenneth L.; and Knain, D. Matthew. An Analysis of the Impact of Commercial Test Preparation Courses on SAT Scores. American Educational Research Journal 19: 429-441; Fall 1982. [secondary]

Sexton, Larry C. and Treloar, James H. Cognitive and Perceptual Measures as Predictors of Fourth-Grade Achievement. Psychology in the Schools 19: 122-128; January 1982. [grade 4]

Shapson, S. M. and Day, E. M. A Comparison Study of Three Late Immersion Programs. Alberta Journal of Educational Research 28: 135-148; June 1982. [grade 6]

Shavelson, Richard J. and Bolus, Roger. Self-Concept: The Interplay of Theory and Methods. Journal of Educational Psychology 74: 3-17; February 1982. [grades 7, 8]

Shaw, Marilyn L. Attending to Multiple Sources of Information: The Integration of Information in Decision Making. Cognitive Psychology 14: 353-409; July 1982. [?]

Sholl, M. Jeanne and Egeth, Howard E. Cognitive Correlates of Map-Reading Ability. Intelligence 6: 215-230; April-June 1982.

Visual-spatial ability and hemisphericity were not good predictors of map-reading ability, whereas the Extended Range Vocabulary and Mathematical Aptitude Tests were significant predictors. (?)

Shrigley, Robert L. Persuasive Communication: A Theoretical Model f for Changing the Attitude of Preservice Elementary Teachers Toward Metric Conversion. Journal of Research in Science Teaching 19: 311-320; April 1982.

Characteristics of metric educators and the content of persuasive communications useful in influencing attitudes toward metric conversion were surveyed. (elementary preservice)

Siegel, Alexander W.; Goldsmith, Lynn T.; and Madson, Camilla R. Skill in Estimation Problems of Extent and Numerosity. Journal for Research in Mathematics Education 13: 211-232; May 1982.

Age-related differences in estimation skills were found. Only a "loose" relationship existed between accurate estimates and appropriate solution strategies. (grades 2-8, adults)

Silverstein, A. B.; Pearson, Linda Brownlee; Aguinaldo, Natalie E.; Friedman, Stanley L.; Takayama, Doris L.; and Weiss, Zvi I. Identity Conservation and Equivalence Conservation: A Question of Developmental Priority. Child Development 53: 819-821; June 1982. [grades K-2]

Slesnick, Twila. Algorithmic Skill vs. Conceptual Understanding. Educational Studies in Mathematics 13: 144-154; May 1982.

Understanding of some division concepts and understanding the division algorithm make different cognitive demands on the child. (grade 6)

Smith, Jeffrey K. Converging on Correct Answers: A Peculiarity of Multiple Choice Items. Journal of Educational Measurement 19: 211-220; Fall 1982. [secondary, college]

Smith, Malbert, III; Stuck, Gary B.; and Johnston, Daniel R. The Identification of Students Likely to Fail the North Carolina Competency Tests. Educational and Psychological Measurement 42: 95-104; Spring 1982. [grade 11]

Smitsman, A. W. Perception of Number. International Journal of Behavioral Development 5: 1-31; March 1982. [age 6-adult]

Spitz, Herman H.; Webster, Nancy A.; and Borys, Suzanne V. Further Studies of the Tower of Hanoi Problem-Solving Performance of Retarded Young Adults and Nonretarded Children. Developmental Psychology 18: 922-930; November 1982. [children, adults (MRs)]

Standifer, Charles E. and Maples, Ernest G. Mathematical Achievement of Third- and Fourth-Grade Students in Compensatory Education When Using Two Types of Calculators. Psychological Reports 51: 11-18; August 1982.

Use of calculators was superior to non-use for fourth graders, but the programmed-feedback calculator produced superior retention for third graders. (grades 3, 4)

Stazyk, Edmund H.; Ashcraft, Mark H.; and Hamann, Mary S. A Network Approach to Mental Multiplication. Journal of Experimental Psychology: Learning, Memory, and Cognition 8: 320-335; July 1982.

Mental multiplication resembled simple mental addition. (college)

Steinbrenner, Arthur and Becker, Carol. Current Status of Abacus Training in Teacher Education Institutions. Journal of Visual Impairment and Blindness 76: 107-108; March 1982. [in-service teachers]

Stevens, Dorothy Jo. Mathematics Methods: Pre-Student Teaching Model. Journal of Teacher Education 33: 18-21; January/February 1982.

The model was found to be valid, although no significant improvement was found in the achievement of pupils taught by teachers using materials prepared in the methods class. (preservice teachers in grade 8)

Stigler, James W.; Lee, Shin-ying; Lucker, G. William; and Stevenson, Harold W. Curriculum and Achievement in Mathematics: A Study of Elementary School Children in Japan, Taiwan, and the United States. Journal of Educational Psychology 74: 315-322; June 1982.

Children from Japan and Taiwan consistently performed at a higher level than did American children. Level of achievement did not appear to be closely related to the content of the curriculum. (grades 1, 5)

Stones, Ivan; Beckmann, Milton; and Stephens, Larry. Sex-Related Differences in Mathematical Competencies of Pre-Calculus College Students. School Science and Mathematics 82: 295-299; April 1982.

Overall, no significant sex differences in achievement were found, but females scored significantly higher in mathematical reasoning and males in geometry, measurement, and probability/statistics. (college)

Streefland, Leen. Subtracting Fractions with Different Denominators. Educational Studies in Mathematics 13: 233-255; August 1982.

Gradual algorithmization, in which pupils could acquire a procedure for subtracting fractions without being forced into the final stages, was explored. (grades 4, 5)

Suddick, David E. and Collins, Burton A. The Descriptive Tests of Mathematics Skills: A Follow-Up of Performance of Older Upper Division Students. Educational and Psychological Measurement 42: 559-561; Summer 1982.

The tests can be used to identify students with algebra skills deficiency. (college)

Suinn, Richard M. and Edwards, Ruth. The Measurement of Mathematics Anxiety: The Mathematics Anxiety Rating Scale for Adolescents--MARS-A. Journal of Clinical Psychology 38: 576-580; July 1982.

Two factors were identified in the scale--numerical anxiety and mathematics test anxiety. (secondary)

Svanum, Soren; Bringle, Robert G.; and McLaughlin, Joan E. Father Absence and Cognitive Performance in a Large Sample of Six- to Eleven-Year-Old Children. Child Development 53: 136-143; February 1982. [ages 6-11]

Svenson, Ola and Sjoberg, Kit. Solving Simple Subtractions During the First Three School Years. Journal of Experimental Education 50: 91-100; Winter 1981-82.

The development of children's cognitive processes involved a gradual shift from more primitive and less demanding memory strategies to reconstructive memory processes to retrieval processes. (grades 1-3)

Swing, Susan R. and Peterson, Penelope L. The Relationship of Student Ability and Small-Group Interaction to Student Achievement. American Educational Research Journal 19: 259-274; Summer 1982.

Small-group work on division and fractions enhanced the achievement and retention of low- and high-ability pupils but not medium-ability pupils. (grade 5)

Swyter, LaVonne J. and Michael, William B. The Interrelationships of Four Measures Hypothesized to Represent the Field Dependence-Field Independence Construct. Educational and Psychological Measurement 42: 877-888; Fall 1982. [grade 3]

Szetela, Walter. Story Problem Solving in Elementary School Mathematics: What Differences Do Calculators Make? Journal for Research in Mathematics Education 13: 381-389; November 1982.

Testing with and without calculators produced few differences in the number of problems attempted and the number of correct operations. (grades 3, 5, 6, 7, 8)

Tallmadge, G. Kasten. An Empirical Assessment of Norm-Referenced Evaluation Methodology. Journal of Educational Measurement 19: 97-112; Summer 1982. [grades 2, 4, 6]

Thorndyke, Perry W. and Hayes-Roth, Barbara. Differences in Spatial Knowledge Acquired from Maps and Navigation. Cognitive Psychology 14: 560-589; October 1982. [?]

Threadgill-Sowder, Judith and Sowder, Larry. Drawn Versus Verbal Formats for Mathematical Story Problems. Journal for Research in Mathematics Education 13: 324-331; November 1982.

Problems in drawn format resulted in better performance than those in the usual verbal format. (grade 5)

Thurlow, Martha L. and Ysseldyke, James E. Instructional Planning: Information Collected by School Psychologists vs. Information Considered Useful by Teachers. Journal of School Psychology 20: 3-10; Spring 1982. [in-service teachers]

Thurman, Richard L.; et al. An Analysis of Teacher Rating Differences Between First-Grade and Mentally Retarded Children: Were Expectancy Biases Involved? Educational Research Quarterly 7: 7-14; Spring 1982.

EMR teachers rated their students significantly lower on mathematical ability than did first-grade teachers, although they performed comparably on a mathematics readiness test. (teachers in grade 1, EMR)

Tishler, Anne G. Attitude-Achievement Interaction in Mathematics with Preservice Elementary Teachers. Capstone Journal of Education 2: 40-44; Winter 1981-82. [elementary preservice]

Torabi-Parizi, Rosa and Campbell, Noma Jo. Classroom Test Writing: Effects of Item Format on Test Quality. Elementary School Journal 83: 155-160; November 1982. [grade 5]

Tversky, Amos and Gati, Itamar. Similarity, Separability, and the Triangle Inequality. Psychological Review 89: 123-154; July 1982. [?]

Voeltz, Luanna M. Effects of Structured Interactions with Severely Handicapped Peers on Children's Attitudes. American Journal of Mental Deficiency 86: 380-390; January 1982. [grades 4-6]

Warrington, Elizabeth K. The Fractionation of Arithmetical Skills: A Single Case Study. Quarterly Journal of Experimental Psychology: Human Experimental Psychology 34A: 31-51; February 1982. [age 61]

Webb, Noreen M. Group Composition, Group Interaction, and Achievement in Cooperative Small Groups. Journal of Educational Psychology 74: 475-484; August 1982.

Asking a question and receiving no answer was detrimental to achievement on a consumer mathematics unit. (grades 7-9)

Webb, Noreen M. Peer Interaction and Learning in Cooperative Small Groups. Journal of Educational Psychology 74: 642-655; October 1982.

Receiving no explanation in response to a question or error was negatively related to achievement. Giving and receiving explanations were positively related to achievement. (grades 7, 8)

Welch, Wayne W.; Anderson, Ronald E.; and Harris, Linda J. The Effects of Schooling on Mathematics Achievement. American Educational Research Journal 19: 145-153; Spring 1982.

Background variables accounted for 25 per cent of the variance in NAEP mathematics achievement scores, while exposure to mathematics courses explained an additional 34 per cent. (age 17)

Whitaker, Donald R. Mathematical Problem Solving Performance as Related to Student and Teacher Attitudes. School Science and Mathematics 82: 217-224; March 1982.

Student performance had a greater effect on teacher attitude than teacher attitude had on student performance. Teacher attitude had a greater effect on student attitude than student attitude had on teacher attitude. (teachers in grade 4)

Whitesitt, John. Mathematics for the Average College-Bound Student. Mathematics Teacher 75: 105-108; February 1982.

Enrollment in remedial courses was found to be growing at a much more rapid pace than enrollment in mathematics courses in general. (college)

Widmer, Connie C. and Chavez, Annette. Math Anxiety and Elementary School Teachers. Education 102: 272-276; Spring 1982.

A significant relationship was found between math anxiety and career inhibition, and between math anxiety and perceived type of mathematics training. (elementary teachers)

Wiebe, James H. Using Graded Quizzes, Homework, and Attendance for Motivating Study in a College Math Class. Mathematics and Computer Education 16: 24-28; Winter 1982.

No significant differences were found in achievement or attitude toward mathematics for students having the quiz-homework-attendance treatment or when test scores alone determined grades. (college)

Wild, Cheryl L.; Durso, Robin; and Rubin, Donald B. Effect of Increased Test-Taking Time on Test Scores by Ethnic Group, Years Out of School, and Sex. Journal of Educational Measurement 19: 19-28; Spring 1982. [college]

Wileman, Stanley; Stephens, Larry; and Konvalina, John. The Relationship Between Mathematical Competencies and Computer Science Aptitude and Achievement. Journal of Computers in Mathematics and Science Teaching 2: 20-21; Fall 1982.

A strong relationship was found between mathematical competencies and probable success in beginning computer science courses. (college)

Wilkinson, Alex Cherry. Partial Knowledge and Self-Correction:

Developmental Studies of a Quantitative Concept. Developmental Psychology 18: 876-893; November 1982. [?]

Williams, Robert T. North Carolina's Efforts to Strengthen Science and Mathematics. School Science and Mathematics 82: 552-559; November 1982.

Certification and incentives for secondary teachers were surveyed. (secondary teachers)

Wilson, Bryan. Primary Guidelines. Mathematics in School 11: 13-18; November 1982. [ages 5-13]

Winne, Philip H. and Marx, Ronald W. Students' and Teachers' Views of Thinking Processes for Classroom Learning. Elementary School Journal 82: 493-518; May 1982. [teachers in grades 4, 5, 7]

Wolf, Thomas M. and Wenzl, Paula A. Assessment of Relationship Among Measures of Social Competence and Cognition in Educable Mentally Retarded-Emotionally Disturbed Students. Psychological Reports 50: 695-700; June 1982. [ages 11-15 (EMR)]

Yvon, Bernard R. and Spooner, Eunice B. Variations in Kindergarten Mathematics Programs and What a Teacher Can Do About It. Arithmetic Teacher 29: 46-52; January 1982.

Of 106 mathematics concepts identified, only 29 were presented in a majority of the eight kindergarten programs surveyed. (grade K)

Zahorik, John A. Learning Activities: Nature, Function, and Practice. Elementary School Journal 82: 309-317; March 1982. [elementary teachers]

Zepp, Raymond A. Bilinguals' Understanding of Logical Connectives in English and Sesotho. Educational Studies in Mathematics 13: 205-221; May 1982. [secondary]

Dissertations

This final section of the listing contains 284 dissertations.

Achariyakosol, Vachiraporn. The Interactive Effects of Presentation Formats of Rotated Figures and Cognitive Style on Visual Transformation Problem Solving. (University of Pittsburgh, 1981.) DAI 42A: 3395; February 1982. [8202220]

No significant interaction was found between the two presentation formats and field dependence or independence. (college)

Agnew, Evelyn Marie. The Relationship Between Elementary School Climate and Student Achievement. (University of San Francisco, 19[illegible] DAI 43A: 360; August 1982. [DA8215489] [grades 3, 6]

Aguero, Roberto. An Investigation of the Relationships Between Self-Concept, Motivation for Schooling, Attitude Toward Mathematics and Reading, and Actual Achievement in Mathematics and Reading Among Mexican American and Anglo Junior High School Students. (The Pennsylvania State University, 1981.) DAI 42A: 4268; April 19[illegible] [DA8205871]

Mexican-American students achieved significantly lower than Anglo students in mathematics, but no significant differences in motivation for school or self-concept were found. (grades 7-9)

Aina, Johnson Ayodele. Development of Guidelines for Preparation of Teachers for Secondary School Mathematics Teaching in Nigeria ([illegible] and Undergraduate Programs). (Temple University, 1982.) DAI [illegible] 5048-5049; June 1982. [DA8210448] [secondary preservice]

Alexander, Robert Wynne. Developing Minimal Competencies for Solving Exercises and Problems by Organizing Clusters of Cued Information for Long-Term Memory with Selected Content in Algebra I. (Georgia State University-College of Education, 1982.) DAI 43A: 1865-1866; December 1982. [DA8226160]

A problem-solving heuristic was successfully employed and assessed by tests requiring the reproduction of long-term memory information on related problems. (grade 9)

Anania, Joanne. The Effects of Quality of Instruction on the Cognitive and Affective Learning of Students. (The University of Chicago, 1981.) DAI 42A: 4269; April 1982. [--] [grades [illegible] 8]

Annice, Clementina Webster. The Long Term Effects of a Preschool Intervention Program on the Mathematics Achievement of Elementary Students in Rural Appalachia. (West Virginia University, 19[illegible] DAI 42A: 4340-4341; April 1982. [DA8207503]

Those who had had the preschool program performed significantly better on all mathematics achievement measures except teacher assessment than did non-participants, but the program had little predictive strength. (grades 3, 6)

Bailey, Robert Edward. A Study Comparing Two Methods of Teaching Mathematical Model Building to Gifted Secondary Mathematics Students. (Georgia State University-College of Education, 1982.) DAI 43A: 710; September 1982. [DA8219500]

Students having the Model to Applications method scored significantly higher than students having the Applications to Model method. (secondary)

Bain, Ann M. An Investigation of the Arithmetical Skills of Fourth- and Sixth-Grade Low Achieving Readers. (The Johns Hopkins University, 1982.) DAI 43A: 387; August 1982. [DA8211695]

Low-achieving readers generally evidenced significantly lower arithmetical skills than high achievers. (grades 4, 6)

Ballard, Paula Dean. The Effect of Interdisciplinary Curricular Materials in Science and Mathematics on Student Achievement, Attitude, and Attrition. (The University of Alabama, 1982.) DAI 42A: 4270; April 1982. [DA8205852]

No significant differences in achievement or attrition were found between users and non-users of the interdisciplinary materials; only one attitude difference was noted. (junior college)

Bardouille-Crema, Jeanne Annette. A Study of the Effects Associated with Socioeconomic Status on the Performance of Black Children on Piagetian Tasks. (Purdue University, 1982.) DAI 43A: 1832; December 1982. [DA8225687] [elementary]

Barron, Linda Carole. The Effects of a Peer-Teaching Model on Achievement of High-School General-Mathematics Students. (George Peabody College for Teachers of Vanderbilt University, 1981.) DAI 42A: 4341; April 1982. [DA8205802]

Groups using peer teaching achieved significantly more in both General and Applied Mathematics courses than did non-users of the procedure who were given no special treatment, although not significantly different from non-users given the same materials. (secondary)

Barry, Janet Wilson. A Comparative Study of Achievement Gains and Continued Parent Involvement of Fourth Grade Students Who Participated in a Specific Early Intervention Program with Students Not Participating in the Early Intervention Program. (Saint Louis University, 1982.) DAI 43A: 1417; November 1982. [DA8223639] [grade 4]

Barton, Wayne Arthur. The Effects of One-Parentness on Student Achievement. (The Pennsylvania State University, 1981.) DAI 42A: 2944-2945; January 1982. [8129138] [grades 5, 6]

Beal, Barry Barton. An Examination at the Fifth Grade Level of Test Item Bias in the Comprehensive Tests of Basic Skills. (University of Denver, 1982.) DAI 43A: 769; September 1982. [DA8216688] [grade 5]

Beckerman, Terrill Michael. A Study of the Main and Interactive Effects of Student Types, Sex, and a Treatment Program on the Mathematics Achievement and Attitudes of Fourth Grade Students. (University of Missouri-Columbia, 1981.) DAI 42A: 3862; March 1982. [DA8205365]

Almost all students could be placed into one of five classifications. Particular factors, such as homework, had differential influences on achievement of the five types, and the experimental instructional plan resulted in higher achievement for all five types. (teachers in grade 4)

Bellemore, David S. Educational Paths in High School Programs and Their Effect on Student Achievement. (Columbia University Teachers College, 1982.) DAI 43A: 1358; November 1982. [DA8223103] [grades 9-11]

Bergeson, Teresa Marion. A Comparison of Two Methods of Improving Math Attitudes in Intermediate Teachers and Counselors. (University of Washington, 1982.) DAI 43A: 1809-1810; December 1982. [DA8226521]

The spatial visualization and eclectic methods were each successful on one of five hypotheses. (intermediate in-service)

Bhumirat, Kanjit. Supply and Demand Projections for Junior High and High School Mathematics Teachers in Kansas. (University of Kansas, 1981.) DAI 42A: 3047; January 1982. [8128722]

The need for junior high and high school mathematics teachers slightly decreased between 1975 and 1979, while the potential supply decreased at a faster rate. Active teacher ages had increased, indicating a future demand for replacements. (secondary teachers)

Blume, Glendon Wilbur. Kindergarten and First-Grade Children's Strategies for Solving Addition and Subtraction Problems in Abstract and Verbal Problem Contexts. (The University of Wisconsin-Madison, 1981.) DAI 42A: 3482; February 1982. [8125706]

No significant differences were found in the difficulty of verbal (word) problems and abstract contexts. Use of concrete materials declined with abstract problems, and guessing increased. (grades K, 1)

Bongjoh, Felex Nsom. The Effects of Mnemonic Verbalizations and Formally Stated Rules on Problem Solving. (The Florida State University, 1982.) DAI 43A: 398; August 1982. [DA8215238]

Mnemonic verbalizations enhanced problem solving better than a coached no-verbalizations strategy. (grade 11)

Bordeaux, Richard Jesse. Establishment of Predictive Use of the Wechsler Intelligence Scale for Children--Revised on Academic Achievement for a Select Group of South Dakota Indian Students. (University of South Dakota, 1982.) DAI 43A: 1458; November 1982. [DA8216681] [elementary]

Bouldin, Charles Larry. An Investigation of Applications of Cognitive

Mapping to Instructional Strategies for College Courses in Basic Mathematics. (The University of Tennessee, 1982.) DAI 43A: 1866; December 1982. [DA8225326]

No significant differences in basic skills acquisition or attitudes were found between students whose visual or auditory learning styles matched or mis-matched with the instructional treatment. (community college)

Breslow, Leonard Arnold. The Development of Relational Thinking in Children: Transitivity and Seriation. (University of California, Berkeley, 1981.) DAI 42B: 4953; June 1982. [DA8211868] [ages 5-13]

Bridges, Arthur Carl. The Relationship Between Sex-Role Identity and Academic Achievement in Black High School Students. (The American University, 1981.) DAI 42A: 4720; May 1982. [DA8208511] [secondary]

Brink, James Edward. The Effect of Training in Translation of Verbal Mathematical Problems on Problem Solving Achievement. (Brigham Young University, 1982.) DAI 43A: 1866; December 1982. [DA8224776]

Instructing students in how to translate verbal mathematical language improved their problem-solving achievement. (grade 7)

Brubaker, E. Lynn. The Effect of an Instructional Strategy Oriented Toward Mathematical Applications from an Activity Learning Perspective upon Achievement and Attitudes of Ninth Grade General Mathematics Students: An Exploratory Study. (Temple University, 1982.) DAI 43A: 1070; October 1982. [DA8217726]

No findings were included in the abstract. (grade 9)

Bryant, Dorothy Taylor. A Study of the Relationship of Inservice Education to Teachers' Attitudes and Pupil Achievement. (George Peabody College for Teachers of Vanderbilt University, 1981.) DAI 42A: 4659-4660; May 1982. [DA8208438] [in-service teachers]

Bryant, Reva Ruth. Effects of Team-Assisted Individualization on the Attitudes and Achievement of Third, Fourth and Fifth Grade Students of Mathematics. (University of Maryland, 1981.) DAI 43A: 70; July 1982. [DA8213790]

The team-assisted individualized method resulted in higher scores than did use of the individualized materials without team learning or traditional materials and procedures. (grades 3-5)

Bukatman, Kevin Lawrence. The Effects of Computer-Assisted Instruction for Mastery of Multiplication Facts on Learning-Disabled Elementary School-Aged Children Differing on Locus of Control. (Boston College, 1981.) DAI 42A: 3944; March 1982. [DA8204003]

No significant differences in learning of facts were found between groups given computer-assisted practice or traditional programs. Those with an internal locus of control learned better with the computer, while those with an external locus learned better from

traditional instruction. (grades 4-6)

Burch, Warren Jay. The Development, Interview Testing, and Generalization of a Theory Based Model of Conceptual Structures for Solving Routine Trigonometry Problems. (Virginia Polytechnic Institute and State University, 1981.) DAI 42A: 4341; April 1982. [DA8206731]

The model was found to contain the problem-solving paths used by the six students interviewed. (secondary?)

Burns, Patricia Knight. A Quantitative Synthesis of Research Findings Relative to the Pedagogical Effectiveness of Computer-Assisted Mathematics Instruction in Elementary and Secondary Schools. (The University of Iowa, 1981.) DAI 42A: 2946; January 1982. [8128378]

A meta-analysis of 40 studies indicated that computer-supplemented instruction was significantly more effective in fostering achievement than was traditional instruction. (elementary, secondary)

Bushyager, Glenn Ray. The Development of a Mathematics Attitude Inventory for Secondary Students in the Des Moines Public Schools. (University of Northern Colorado, 1981.) DAI 42A: 3482; February 1982. [8202691]

The attitude instrument had a reliability of .90, while the validity coefficient was .77. (secondary)

Butkowsky, Irwin Sam. On the Generality of Learned Helplessness in Children with Learning Difficulties. (University of Waterloo (Canada), 1982.) DAI 43B: 1607; November 1982. [--] [grade 5]

Caputo, Donald Joseph. An Analysis of the Relative Effectiveness of a Graphics-Enhanced Microcomputer-Based Remedial System in a University Basic Mathematical Skills Deficiency Removal Plan. (University of Pittsburgh, 1981.) DAI 42A: 3482-3483; February 1982. [8202231]

The combination of microcomputer-based instruction and graphics display techniques was effective in producing achievement. (college freshmen)

Carabin, Robert Jerome. An Analysis of Adult Learning and Placement in Community College Entry Level Mathematics Courses. (Texas A&M University, 1981.) DAI 42A: 2967-2968; January 1982. [8128941]

Age and the student's opinion were highly significant variables affecting achievement, but sex was not. (community college)

Cardelle-Elawar, Maria. Effects of Training Venezuelan Teachers in Providing Feedback on Mathematics Homework. (Stanford University, 1982.) DAI 43A: 1508; November 1982. [DA8220435] [teachers in grade 6]

Carleton, Nancy Louise Riggs. Implications of Physical Education Activities as Reinforcement in Learning Multiplication Tables. (Oklahoma State University, 1981.) DAI 43A: 107; July 1982. [DA8213015]

No significant difference in learning the tables was found between students whose learning was or was not reinforced through specifically designed physical activities. (grade 4)

Carlini, Ronald John. Effects of Attribution Training and Self-Management Training on Arithmetic Task Completion. (The University of Tennessee, 1981.) DAI 42B: 3804; March 1982. [DA8203824] [elementary]

Carrier, Robert John. The Relationship of Non-School Factors to Achievement in Reading and Mathematics. (The University of Michigan, 1981.) DAI 42A: 3863; March 1982. [DA8204615] [grades 2-6]

Casey, Maureen Therese. Academic Achievement Levels and Demographic Characteristics of Mainstreamed Hearing Impaired Students: A Descriptive Study. (University of Oregon, 1981.) DAI 42A: 5084; June 1982. [DA8209653] [ages 6-20]

Chan, Victoria Owyang. The Discourse Patterns of Bilingual and Monolingual Mathematics Tutors: Effects on Mathematics Achievement of Bilingual Chicano Students. (Stanford University, 1982.) DAI 43A: 1070; October 1982. [DA8220437]

Differences in achievement were not found, but differences in discourse were evident. (grade 7)

Christian, Marjory Elaine French. The Impact of Kindergarten Attendance on the Academic Achievement of Randomly Selected First Grade Students in a Southern Mississippi School District. (University of Southern Mississippi, 1981.) DAI 42A: 3359; February 1982. [8202752] [grade 1]

Clemente, Clemencia Garcia de. The Relationship of Three Instructional Approaches to the Attitude and Achievement in Mathematics of Prospective Elementary School Teachers in Venezuela. (Boston University School of Education, 1982.) DAI 43A: 142-143; July 1982. [DA8213447] [elementary preservice]

Clemente, Jose. A Comparison of Two Mathematics Curricula for Seventh Grade Metropolitan Caracas Students. (Boston University School of Education, 1982.) DAI 43A: 101; July 1982. [DA8213446] [grade 7]

Clute, Pamela Sue. The Effects of Anxiety and Method of Instruction on Achievement in a Survey Course in College Mathematics. (University of California, Riverside, 1982.) DAI 43A: 1866; December 1982. [DA8223369]

A significant interaction effect between expository and discovery methods and anxiety was found. (college)

Cooper, Trenton. Articulation for Physical Science and Mathematics in Arkansas Colleges and Universities. (The University of Tennessee, 1981.) DAI 42A: 3853; March 1982. [DA8203827] [college]

Cox, Mary Ann. The Effect of an Assessment, Voluntary Placement System on Student Success at the [illegible]nity College. (University of La Verne, 1981.) DAI 43A: 14[illegible]nber 1982. [DA8220737] [community college]

Cox, Mary Osborne. Effects of Hypnotherapy and Relaxation Training on Mathematics Achievement. (Texas A&M University, 1981.) DAI 42B: 4186; April 1982. [DA8206614]

No achievement differences were found between three treatments designed to reduce anxiety. (college)

Crowe, Dorothy Ensley. The Use of Practice Programs to Improve Test Scores of Elementary School Students. (University of South Carolina, 1981.) DAI 42A: 3116; January 1982. [8129451] [grades 4, 5]

Curcio, Frances Rena. The Effect of Prior Knowledge, Reading and Mathematics Achievement, and Sex on Comprehending Mathematical Relationships Expressed in Graphs. (New York University, 1981.) DAI 42A: 3047-3048; January 1982. [8128203]

Most of the factors studied were correlated with graph comprehension, but sex-related differences were found in grade 7 and not grade 4. (grades 4, 7)

Daniels, John Thomas. An Investigation into the Causes of Declining Academic Achievement at the Secondary School Level. (St. Louis University, 1981.) DAI 43A: 1492-1493; November 1982. [DA8223655] [secondary]

Darakjian, Gregory Peter. The Relationship of Junior High School Performance to Standardized Measures of Academic Self-Concept and Achievement and to Teacher Ratings of Citizenship and Effort: Implications for Curriculum and Instruction. (University of Southern California, 1982.) DAI 43A: 61; July 1982. [--] [grade 8]

David, Janet. The Effects of Placement in Foster Family Homes on Selected Aspects of School Adjustment and Academic Achievement. (Fordham University, 1982.) DAI 43A: 1474; November 1982. [DA8223593] [ages 6-14]

DeBoskey, Dana Stephens. An Investigation of the Remediation of Learning Disabilities Base on Brain-Related Tasks as Measured by the Halstead-Reitan Neuropsychological Test Battery. (The University of Tennessee, 198[illegible].) DAI 43B: 2032; December 1982. [DA8225330] [ages 9-12]

Delaney, James, Jr. A Comparison Between Individualized Instruction and Traditional Teaching Methods in Elementary Grades in American Public Schools. (University of South Africa (South Africa), 1981.) DAI 42A: 3822; March 1982. [--] [grade 6]

Delventhal, Elmer Francis. The Effects of the Use of a Mathematics Tutoring Center on the Achievement and Attitude of Intermediate

Algebra Students at the College Level. (The University of Connecticut, 1982.) DAI 43A: 1456; November 1982. [DA8223407]

No significant differences in achievement or attitude were found among groups required, allowed, or not allowed to use the tutoring center. (college)

DeMary, Joe Lynne. A Study of the Relationship Between Chronological Age at the Time of Entrance to Kindergarten and Academic Achievement. (The College of William and Mary in Virginia, 1982.) DAI 43A: 660; September 1982. [DA8218001] [grade 4]

DePino, Catherine Spinelli. Competencies Needed by Department Heads in Curriculum Development, Curriculum Implementation, and Curriculum Evaluation as Perceived by Department Heads in the Senior High School of the School District of Philadelphia. (Temple University, 1982.) DAI 43A: 1025; October 1982. [DA8217738] [secondary teachers]

DeStefano, Frank Vincent. A Comparison Between the Linear Equation and Ratio and Proportion Methods for Solving Percent Problems Conditioned on Understanding the Properties of a Group and Piagetian Proportional Logic. (Rutgers University The State University of New Jersey (New Brunswick), 1981.) DAI 43A: 101; July 1982. [DA8214516]

For students who understood proportionality, either method was successful; for others, the ratio-proportion method was significantly better. (grade 8)

Devenney, Robert Fraser. A Study of the Effects of a Heuristics Technique and a Conventional Textbook Technique on the Problem Solving Abilities of Thirty-Five Eighth Grade Boys. (Temple University, 1982.) DAI 43A: 1070-1071; October 1982. [DA8217739]

No findings were reported in the abstract. (grade 8)

Dew, Kathleen Michie Harriss. A Comparison of the Psychometric Properties of Three Math Anxiety Measures in a College Population. (The University of North Carolina at Chapel Hill, 1982.) DAI 43B: 1610; November 1982. [DA8222840]

Two of the measures were found to have reasonable internal consistency and reliability over time. Both found that females had greater math anxiety. (college)

Dhafar, Abdulrazzag Ahmad. A Study of How Supervisors' Evaluations, Teachers' Behavior, and Students' Attitudes Toward Teachers are Related to Instructionally Effective Teachers of Ninth-Grade Mathematics. (Michigan State University, 1982.) DAI 43A: 1407; November 1982. [DA8224419] [teachers in grade 9]

Diamond, Vicki Wong. An Assessment of Knowledge of and Skills in Applying Diagnostic/Prescriptive-Teaching Procedures of Elementary School Mathematics in a Clinical Inservice Teacher Training Program. (University of Maryland, 1981.) DAI 42A: 3956; March 1982. [DA8205224]

The set of diagnostic-prescriptive teaching competencies was found to be valid. The program was effective in developing teachers' competencies. (elementary in-service)

Diaz Berdecia, Nelson. The Relationship Between the Degree of Bilingualism and Competence vs. Performance of Puerto Rican Children in the Acquisition of Conservation. (Temple University, 1982.) DAI 43A: 1086-1087; October 1982. [DA8217736] [grades 1-3]

Dickerson, Dale Gerardo. An Investigation of the Process of Classroom Teachers Cooperatively Designing Minimal Competencies. (Saint Louis University, 1982.) DAI 43A: 1407; November 1982. [DA8223658]

Responses to questionnaires did not differ significantly before and after teachers prepared competency statements, but differences were found on responses of participants and non-participants. (elementary in-service)

Diem, Dennis Charlton. The Effectiveness of Computer Assisted Instruction in College Algebra. (Florida Atlantic University, 1982.) DAI 43A: 1456; November 1982. [DA8224552]

No significant differences in learning were found among groups given traditional instruction or three types of computer-aided instruction. (college)

Diggs, Jacqueline Carol. Academic Learning Time of Special Needs and Nonspecial Needs Secondary Students in English, Home Economics, Mathematics, and Social Studies. (University of Massachusetts, 1982.) DAI 42A: 5080; June 1982. [DA8210315] [secondary]

Dildy, Peggy Ann. An Investigation of the Impact of the Program for Effective Teaching on Student Achievement. (East Texas State University, 1981.) DAI 42A: 4714-4715; May 1982. [DA8207866] [grades 4-6]

Donahue, Gabriel Mary. Problem-Solving Strategies Used by Elementary School Children in Solving Routine and Nonroutine Word Problems in Mathematics. (New York University, 1982.) DAI 43A: 387-388; August 1982. [DA8214868]

Second graders used aids and calculators, and scored significantly higher than fourth graders, whose scores were higher using mental and written computation. Both groups attempted to solve non-routine problems, exhibiting strategies not ordinarily taught in elementary school. (grades 2, 4)

Dong, Archer Wah. A Comparison of Two Approaches to the Teaching of Mathematics: Team-Teaching Versus Individualized-Laboratory Instruction. (University of Massachusetts, 1982.) DAI 43A: 710; September 1982. [DA8210316]

No significant difference in achievement was found between the two approaches. (grade 10)

Driscoll, Annamae. The Effect of Tension Control Training on

Mathematics and Reading Achievement with Elementary School Children. (Boston University School of Education, 1981.) DAI 42A: 3853-3854; March 1982. [DA8203889] [grade 5]

Earle, Jonathan Bailey Browder. Arithmetic and E.E.G. Assymetry: The Effects of Sex and Task Difficulty. (Tufts University, 1981.) DAI 42B: 3482; February 1982. [8121358] [college?]

Ebey, Arthur Frederick. A Study of the Effects of Early Retention on Fifth Grade Achievement. (Michigan State University, 1981.) DAI 42A: 3411; February 1982. [8202424] [grade 5]

Echols, Patricia Southerland. A Study of the Relationships Among Students' Attitudes Toward Mathematics and the Variables of Teacher Attitude, Parental Attitude, Achievement, Ability, Sex of the Student and Grade Level of the Student. (University of Houston, 1981.) DAI 42A: 4752; May 1982. [DA8210431]

The most important predictors of student attitude toward mathematics were attitude of father and of mother, achievement, and grade level. (grades 5, 7)

Edwards, John Peeples, Jr. The Effects of Aids, Error Types and Repetitions on the Times and Strategies Utilized in the Correction of Computer Program Errors. (The Catholic University of America, 1982.) DAI 43A: 1071; October 1982. [DA8221479]

No time advantage seemed to be gained by having beginning programmers debug their own programs. (community college)

El-Far, Ibrahim Abdel-Wikeil Morsy. An Experimental Study of Effects of Using Diagnostic/Prescriptive Procedures on the Mastery Learning of the First-Year Algebra Course Required of Preservice Secondary School Teachers in Egypt. (The Pennsylvania State University, 1981.) DAI 42A: 4341; April 1982. [DA8205905] [secondary preservice]

Fabrey, Lawrence John. The Effects of Calculator Usage and Task Difficulty on State Anxiety in Solving Statistics Problems. (The Pennsylvania State University, 1982.) DAI 43A: 729; September 1982. [DA8218899] [college]

Fallbeck, Patricia Denise. The Use of Hand-Held Calculators in the Instruction of Addition Combinations with Retarded Adults. (University of Northern Colorado, 1982.) DAI 43A: 101-102; July 1982. [DA8213269]

The use of an abacus appears to be more effective than the calculator for teaching retarded adults addition facts. [adults (MRs)]

Fantasia, Kathryn Lee. An Investigation of Formal Analysis as an Intervention to Improve Word Problem Computation for Learning Disabled Children. (University of Washington, 1981.) DAI 42A: 5085; June 1982. [DA8212529]

Direct instruction of formal analysis was effective in teaching LD pupils to compute single-step addition and subtraction problems

containing extraneous information. (ages 9-12)

Feijo, Maria Carmen Capelo. Early Childhood Educational Programs and Children's Subsequent Learning: A Brazilian Case. (Stanford University, 1982.) DAI 43A: 1033; October 1982. [DA8220455] [grades K, 1]

Filemban, Samir Noorudein. Verbal Classroom Interaction in Elementary School Mathematics Classes in Saudi Arabia. (Oregon State University, 1982.) DAI 42A: 4342; April 1982. [DA8206527] [elementary in-service]

Finger, William. Self-Instructional Training in Teaching Arithmetic to Children. (Hofstra University, 1981.) DAI 42B: 4574-4575; May 1982. [DA8206403]

Self-instructional training was found to be more beneficial than an attention placebo or no treatment. (grade 2)

Fluck, Sandra Elaine. The Effects of Playing and Analyzing Computational-Strategy Games on the Problem Solving and Computational Ability of Selected Fifth Grade Students. (Temple University, 1982.) DAI 42A: 5020; June 1982. [DA8220481]

The maximum- and average-paced game-playing groups gained in problem-solving ability, but the minimum-paced group did not show a significant gain. No difference was found on computation performance. (grade 5)

Freeman, Carol Lipps. The Effect of a Mathematics Anxiety Reduction Model on the Students in a College Level Basic Mathematics Skills Course. (Saint Louis University, 1982.) DAI 43A: 1456; November 1982. [DA8223666]

The intervention treatment did not significantly affect anxiety, attitude, or achievement. (college)

Frisz, Henry. A Study of the Relationship Between the Tripos Examination and the Mathematical Curriculum at Cambridge University from 1870 to 1880. (Columbia University Teachers College, 1982.) DAI 43A: 1866-1867; December 1982. [DA8223130]

The examination was found to have a significant influence on the mathematics curriculum. (college)

Garcia, Lazaro. The Treatment of Mathophobia by Means of Reinterpretation of Physiological Arousal as a Function of the Level of Perceived Arousal. (Fordham University, 1982.) DAI 43B: 1652; November 1982. [DA8223599]

Both reinterpretation and relaxation treatments were effective in improving test performance, with no significant difference between them. (secondary)

Garfield, Joan Barbara. An Investigation of Factors Influencing Student Attainment of Statistical Competence. (University of Minnesota, 1981.) DAI 42A: 5064; June 1982. [DA8211476]

Although problem-solving statistics units differing in types of problems could not be linked to higher achievement, certain conditions appeared to be related to achievement when level of skill in mathematics was considered. (college)

Garrard, Susan Wright. Sex Differences, Spatial Visualization Ability and the Effects of Induced and Imposed Imagery on Problem Solving Performance. (University of Southern California, 1982.) DAI 43A: 115; July 1982. [--]

Significant sex-related differences in spatial visualization were found. Spatial visualization was highly related to problem-solving performance; visual adjuncts were equally useful for high and low spatial ability students. (grade 8)

Gee, Patricia Lee. Reading and Mathematics Achievement of Eighth-Grade Chinese-American Students Enrolled in Bilingual or Monolingual Programs. (University of San Francisco, 1982.) DAI 43A: 1814; December 1982. [DA8215492] [grade 8]

Ghandoura, Abbas Hassan. Achievement Effects of Teacher Comments on Homework in Mathematics Classes in Saudi Arabia. (Oregon State University, 1982.) DAI 43A: 388; August 1982. [DA8216635] [grades 4, 6, 9]

Giangrasso, Anthony Patrick. An Exploratory Study of the Relationship Between Mathematics Anxiety and the Processes Used by Developmental Community College Freshmen to Solve Verbal Mathematics Problems. (New York University, 1981.) DAI 42A: 3048; January 1982. [8128208]

Higher levels of anxiety were associated with a smaller number and variety of problem-solving processes used by students, and with more structural errors and lower product scores. (community college)

Gibson, Billy Howard. Leader Behaviors and Successful Demonstration Programs in Reading and Mathematics for Low Achieving Students in the State of California for 1979-80. (University of Southern California, 1982.) DAI 43A: 990; October 1982. [--] [elementary, secondary]

Glass, Gladys Thomas. A Study of Mathematics Anxiety Among Female College Students. (Georgia State University-College of Education, 1982.) DAI 43A: 1867; December 1982. [DA8226162]

No significant differences in anxiety or attitudes were found between students taking or not taking an anxiety-reduction program. (college)

Glynn, K. Denise Muth. Reading Comprehension Ability and the Solution of Arithmetic Word Problems. (University of Georgia, 1981.) DAI 42A: 3524; February 1982. [8201538]

Both reading comprehension and computation abilities contributed to successful solution of problems. Extraneous information made problems more difficult, but syntactic structure had no significant

effect. (grade 6)

Godia, George Imbanga. A Comparative Study of the Effects on Achievement, Changes in Attitude Toward Mathematics and Attrition Rate of Students Enrolled in the Freshman Remedial Arithmetic Course Under Two Different Instructional Approaches. (Ohio University, 1981.) DAI 42A: 3412; February 1982. [8201446]

The group in which the calculator was used with small-group instruction had significantly higher achievement than a large-group approach using diagnostic remediation. Attitudes were more favorable in the latter group, however. (college freshmen)

Goodstein, Harvey. Mathematics Preparation and Mathematics In-Service Training Needs and Preferences of Mathematics Teachers of the Hearing Impaired in the United States. (The American University, 1981.) DAI 42A: 4752-4753; May 1982. [DA8208514]

Teachers in schools for the deaf had taken fewer mathematics courses than public school teachers. They wanted in-service education at a practical level. (pre- and in-service teachers, grades K-12)

Gorce, Martin Joseph. Subject Curriculum Modifications Occurring in Stable Enrollment Competency-Based Testing and Non-Competency-Based Testing Public Senior High Schools Between the School Years 1974-75 and 1978-79. (University of Colorado at Boulder, 1981.) DAI 42A: 4703; May 1982. [DA8209823] [secondary]

Goulas, Fara Marilyn. A Diagnostic Study of the Prevalence of Learning Disabilities Detected in Randomly Selected Referrals to Jefferson County Probation Services, Jefferson County, Texas. (McNeese State University, 1982.) DAI 43A: 1926; December 1982. [DA8225123] [secondary?]

Green, Janice Martin. The Mathematics Education of Preservice Elementary Teachers in the State of Ohio. (Kent State University, 1981.) DAI 42A: 4753; May 1982. [DA8209195]

Ohio preservice education programs indicated an awareness of national recommendations. Specific aspects of the programs are noted. (elementary preservice)

Greene, Roberta Menter. Now You Mean It--Now You Don't: An Exploratory Study of Children's Sensitivity to Consistent and Discrepant Message Meanings, As Judged by Normal, Learning Disabled and Math Depressed Boys. (Boston University School of Education, 1982.) DAI 43B: 1302; October 1982. [DA8220929] [ages 9-11]

Griffin, Gayle Juanita Wilson. A Study of the Relationship Between School Self-Concept and Academic Evaluation of First Grade Students. (University of Pittsburgh, 1981.) DAI 42A: 3413; February 1982. [8202242] [grade 1]

Griffin, Karen Jane Mayes. The Effects of Fingermath, or Chisanbop upon the Mathematical Computational Ability and Mathematical Attitudes of Ninth Grade General Mathematics Slow Learners with

Attention Given to the Variables of Sex and Learning Styles. (Northwestern State University of Louisiana, 1982.) DAI 43A: 1071; October 1982. [DA8217981]

No significant difference in computation or attitude scores was found between students taught or not taught Fingermath. (grade 9)

Gutmann, Marilyn Beryl. Parent Involvement and Children's Mathematics Achievement. (Wayne State University, 1981.) DAI 42A: 5049; June 1982. [DA8209306]

Parents and pre-student-teachers were both effective in using games to increase achievement scores of pupils. (grades 2, 3)

Hailey, Willy Larry. The Effects of Cross-Age Tutoring on Self-Concept and Mathematics Achievement. (Mississippi State University, 1982.) DAI 42A: 4753; May 1982. [DA8210075]

Significant differences in achievement and self-concept were found between tutors and non-tutors in grade 4 but not grade 8. (grades 4, 8)

Haines, Pamela Ruth. Modifying Mathematics Instruction for Gifted Students Using S.A.L.T. (University of Denver, 1981.) DAI 42A: 4790; May 1982. [DA8209746]

Higher achievement and creativity resulted from using the suggestive-accelerative method with gifted students. (grade 4)

Hallford, James Reynolds. The Relationship Between Teacher Performance and Pupil Advancement on Teacher-Constructed Criterion-Referenced Tests. (George Peabody College for Teachers of Vanderbilt University, 1982.) DAI 43A: 1946; December 1982. [DA8227086] [secondary teachers]

Hanna, Gila. A Critique of the Role of Rigorous Proof in the Secondary School Mathematics Curriculum. (University of Toronto (Canada), 1981.) DAI 42A: 4275; April 1982. [--]

Curriculum thinking which led to stress on rigorous proof, the axiomatic method, and mathematical practice are discussed. (secondary)

Harik, Fadia Farid. The Influence of Problem Structure on Problem Difficulty and Problem-Solving Processes. (Indiana University, 1981.) DAI 42A: 3048; January 1982. [8128067]

The size of the search-space was a viable predictor of difficulty. Three types of problem-solving moves were identified; 76 per cent of the total moves involved guessing and successive approximation, 16 per cent were manipulative, and the remainder were certainty moves. (grade 7)

Harris, Eileen Dempsey. An Investigation of Mathematically Successful High School Students' Ability to Successfully Rationalize, Comprehend, and Apply Meaningful Strategies in the Computation of Decimal Division. (The Florida State University, 1982.) DAI 43A: 1456-1457; November 1982. [DA8223190]

After the first problem, there was a decided shift to more meaningful explanations of computational procedures. (grades 9, 10)

Harvey, Wayne. Success and Failure in Problem Solving: An Investigation of Mental Processing. (University of California, Berkeley, 1981.) DAI 42B: 4916; June 1982. [DA8211955]

Successful problem solvers were more able than unsuccessful ones to manipulate and evaluate information, construct more meaningful representations, and explore problems before drawing conclusions. (college)

Hawkins, Vincent Joseph. A Comparison of Two Methods of Instruction, A Saturated Learning Environment and Traditional Learning Environment: Its Effects on Achievement and Retention Among Female Adolescents in First-Year Algebra. (The University of Connecticut, 1982.) DAI 43A: 416; August 1982. [DA8216408]

Saturation learning did not produce overwhelming achievement or retention gain compared to traditional learning. (grade 9)

Hayden, Robert W. A History of the "New Math" Movement in the United States. (Iowa State University, 1981.) DAI 42A: 4753; May 1982. [DA8209127]

Roots and changes of the "new math" programs at both elementary and secondary levels are described. (grades K-12)

Haynes, Sarah Wynder. The Relationship of Selected High Schools and Student Characteristics with Scores Achieved on the ACT Assessment in the Seven Great Plains States. (The University of Iowa, 1982.) DAI 43A: 992; October 1982. [DA8222237] [college]

Hebert, Herbert Charles. Life Skills Minimum Competency Testing and Basic Academic Skills Mastery of Selected Louisiana Tenth Grade Students. (McNeese State University, 1982.) DAI 43A: 426-427; August 1982. [DA8216509] [grade 10]

Hecht, Miriam Ratnofsky. Program Design Options in Remedial Mathematics at the City University of New York. (Columbia University Teachers College, 1980.) DAI 42A: 4342; April 1982. [DA8207352]

The 17 CUNY remedial mathematics programs are described. (college)

Heimann, Ute Freyja. The Sex of Secondary School Principals as a Factor in the Mathematics Achievement of Students. (The University of Michigan, 1981.) DAI 42A: 3825; March 1982. [DA8204669]

No significant achievement differences were found between boys and girls at age 13 with principals of either sex. At age 17, girls scored lower in schools with male principals. (ages 13, 17)

Henderson, Kenneth Dale, Jr. Individual Characteristics and Achievement of Pre-Service Elementary Teachers on a Computer Lesson on Diagnosis of Error Patterns. (The University of Florida, 1981.) DAI 42A: 3894-3895; March 1982. [DA8203676]

The strategy used to analyze errors was not significant, but

reflective students scored significantly better than impulsive students. (elementary preservice)

Heraty, Joan Ann. The Effect of Learning Disability Class Placement on the Academic Growth of Learning Disabled Children. (Northern Arizona University, 1981.) DAI 43A: 420; August 1982. [DA8216390] [elementary]

Herring, Richard Douglass. Solving Algebra Word Problems: A Comparison of Instructional Strategies and Problem Characteristics. (The University of Iowa, 1981.) DAI 42B: 3016-3017; January 1982. [8128408]

Both direct translation and schema approaches improved accuracy, but the schema approach produced faster solution times and increased the number of classifications made. (college freshmen)

Hewitt, Sandra Kay Nelson. Learning Disabilities Among Secondary In-School Students, Graduates, and Dropouts. (University of Minnesota, 1981.) DAI 42A: 5066; June 1982. [DA8211486] [ages 16-21]

Hoch, Barbara Ellen. A Comparison of Bolivian Bilingual Schools with Bolivian Rural Government Schools in Reading Comprehension and Arithmetic Computation. (The Pennsylvania State University, 1981.) DAI 42A: 4703-4704; May 1982. [DA8129167] [grades 2-4]

Hodge, Clare Carmi, Jr. Predictive Study of the Meeting Street School Screening Test and Academic Achievement from Grades Two Through Six by Race, Sex, and Kindergarten Experience. (University of South Carolina, 1981.) DAI 42A: 3118; January 1982. [8129498] [grades 2-6]

Homayoun, Kobra. The Effects of General and Specific Visual and Verbal Organizers on the Facilitation of Learning and Retention of Statistics by Eighth Grade Students. (The Catholic University of America, 1981.) DAI 43A: 731; September 1982. [DA8213726]

Generally, the groups given advance organizers did not learn significantly more than the control group, although the combined means were higher. (grade 8)

Hosseini-Nasab, Davood. The Relation of Teacher Perception of Parental Occupational Level and Expected Competency Attainment in Basic Skills for Elementary School Children. (University of Southern California, 1981.) DAI 42A: 4364; April 1982. [--] [grade 3]

Hoy, Cheri Ann. An Investigation of Certain Components of Division with Learning Disabled and Normal Sixth-Grade Boys. (Northwestern University, 1982.) DAI 43A: 1927; December 1982. [DA8225938]

Level of difficulty affected LD boys more than normal boys, but both groups had difficulty understanding the indicated quotient representation of division. (grade 6)

Huerta, Juan F. T. The Status of Mathematics Instruction in Spanish

for Selected Elementary School Districts in Texas. (Texas A&I University, 1981.) DAI 43A: 65; July 1982. [DA8208565]

Eighty-four per cent of the ESEA Title VII proposals stated that mathematics would be taught in Spanish. About half of the teachers stated that they had been trained, and most spent more time on language and reading than on mathematics. (grades K-6)

Hutz, Claudio Simon. The Effect of Belief in Premises and Conclusions on Children's Logical Reasoning. (The University of Iowa, 1981.) DAI 42B: 4602; May 1982. [DA8210001]

The children in general were capable of making correct inferences, whether or not they believed in the truth of the premises. Performance was better when the premises were high in believability. (mean age 7-8)

Jacoby, Arthur Edward. Effects of Two Parent Education Programs on the Academic Performance and Homework-Study Habits of Selected Elementary School Children. (Fordham University, 1982.) DAI 43A: 65; July 1982. [DA8213608] [grades 2-6]

Jenkins, Olga Culmer. The Relation of Personality Factors and Learning Style Preferences to Achievement of Seventh Grade Individualized Mathematics Students. (Columbia University Teachers College, 1981.) DAI 42A: 4342-4343; April 1982. [DA8207322]

No significant achievement difference was found between groups given individualized and conventional instruction, but results varied by personality trait. (grade 7)

Jensen, Joyce Stovall. The Effect of Summer Recess on the Retention of Reading and Mathematics Achievement for Third-Grade and Fifth-Grade Students in a Compensatory Education Program. (Memphis State University, 1981.) DAI 42A: 5020-5021; June 1982. [DA8208407] [grades 3, 5]

Johannsen, Kenneth Ludwig. The Relationship of a Unique Teacher Selection Method to Student Achievement. (George Peabody College for Teachers of Vanderbilt University, 1981.) DAI 42A: 4671-4672; May 1982. [DA8208467]

No significant difference was found in the mathematics gain scores between pupils taught by teachers selected by an interview method or by the district's traditional method. (elementary in-service)

Johnson, Gayle Ann S. An Investigation of Selected Variables and Their Effect upon the Attitude Toward the Teaching of Elementary School Mathematics by Preservice Elementary School Teachers. (University of Houston, 1981.) DAI 42A: 3566-3567; February 1982. [8200921]

Achievement in and attitude toward mathematics, and type of field experience, accounted significantly for variance in attitude toward teaching mathematics. Attitude toward mathematics was also a significant variable alone. (elementary preservice)

Johnson, Willie C. A Comparison Between Traditional and

Nontraditional Elementary Schools on the Basis of the Academic Achievement and Self-Esteem of Students and Parental Perceptions of the Education Provided. (Iowa State University, 1982.) DAI 43A: 1420; November 1982. [DA8224331] [elementary]

Jones, John James. Problem Solving Behaviour and Attitude of Prospective Elementary Teachers with a History of Math Avoidance as a Function of Heuristics and Discussion. (University of Washington, 1981.) DAI 42A: 5049; June 1982. [DA8212560]

Neither discussion nor instruction in heuristics had a significant effect on attitude toward problem solving or performance. Students working alone scored higher than those in groups. (elementary preservice)

Jones, Vinetta Claire. Cognitive Style and the Problem of Low School Achievement Among Urban Black Low SES Students: Grades 2, 4, and 6. (University of California, Berkeley, 1981.) DAI 42A: 3074-3075; January 1982. [8200152] [grades 2, 4, 6]

Judd, Dorothy H. The Status of Microcomputer Curricular Use in Selected Illinois Schools. (Northern Illinois University, 1981.) DAI 43A: 65; July 1982. [DA8211192]

Arithmetic/mathematics was reported as the predominant subject area where microcomputers were used. (teachers in grades K-12)

Kallio, Kenneth David. A Levels of Functioning Hypothesis of the Development of the Ability to Solve Transitive Inferences. (University of California, Santa Barbara, 1981.) DAI 42B: 4950; June 1982. [DA8207640] [grades K, 3, college]

Kamii, Mieko. Children's Graphic Representation of Numerical Concepts: A Developmental Study. (Harvard University, 1982.) DAI 43A: 1478; November 1982. [DA8223212]

Children's understanding of place value seemed to be built in phases, over a long period of time, in conjunction with other kinds of knowledge. (ages 4-9)

Karickhoff, Barbara Lyons. A Study of Variables Related to the Performance of Eighth-Grade Urban Black Students on the Mathematics Portion of the Tennessee Competency Test. (Memphis State University, 1982.) DAI 43A: 1816; December 1982. [DA8227410]

Junior high school attended, number of retentions, and number of parents present in the home were significant factors in explaining variance in scores; previous computation or problem-solving scores were significant predictors. (grade 8)

Kearns, Donald Raymond. Validity and Practicability in Title I Model A. (Arizona State University, 1982.) DAI 43A: 1514; November 1982. [DA8216440]

A non-normed computation test had results characteristic of a norm-referenced test, while a locally developed minimal competency test had results characteristic of a criterion-referenced test, not suited to evaluation with Model A2. (grade 9)

Kerns, Elizabeth Gail Ross. The South Carolina Basic Skills Assessment Program--Perceived Importance, Perceived Difficulty, Practical Emphasis, and Resulting Student Achievement: An Analysis of Relationships. (University of South Carolina, 1981.) DAI 42A: 5021; June 1982. [DA8212248]

Over 85 per cent of instructional time was devoted to teaching basic skills. Operations were most emphasized, followed by concepts and measurement. Least emphasized were problem solving and geometry. Emphasis and achievement were not related on the test. (teachers in grade 6)

Khampalikit, Choosak. Race and Sex Differences in Guessing Behavior on a Standardized Achievement Test in the Elementary Grades. (University of Pittsburgh, 1982.) DAI 43A: 771; September 1982. [DA8218173] [grades 2, 5, 8]

Khoury, Alexander. Modern Infinitesimal Analysis Foundations, Methods, and Applications. (Columbia University, 1981.) DAI 42A: 3895; March 1982. [DA8204502]

The topic is explored "for the benefit of teachers and mathematicians". (college)

Klaus, William Duane, Jr. A Comparison of Student Achievement in Individually Guided Education Programs and Non-Individually Guided Education Elementary School Programs. (University of Missouri-Columbia, 1981.) DAI 42A: 3856; March 1982. [DA8205395] [grades 4-6, 11]

Knerr, Charles Calvin. The Enhancement of Traditional Instruction and Learning in Analytic Geometry Via Computer Support. (Lehigh University, 1981.) DAI 42A: 3483; February 1982. [8201030]

The computer-augmented approach was more effective than traditional instruction alone, especially for diverse or complex concepts. (grade 12)

LaMain, Gladys Marie. The Relationship Between Piagetian Cognitive Measurements and Standardized Achievement Measurements of Inner-City School Children Ages 12 to 15 of Varied Ethnic Backgrounds. (Claremont Graduate School, 1982.) DAI 43A: 1909-1910; December 1982. [DA8220588] [grades 6-8]

Larsen, Inge Bredsig. An Investigation of College Student Performance on Interpretation-Exercises in a Computer-Assisted Instruction Course in Logic. (Stanford University, 1981.) DAI 42A: 3483; February 1982. [8202007]

Context of argument, minimum domain of interpretation, and number of logical connectives and quantifiers were found to be important in predicting difficulty. Student behaviors were also described. (college)

Lawson, Samuel Patrick. The Design of a Metric Curriculum Component to Complement the State Plan for Mathematics Education in Pennsylvania. (University of Pittsburgh, 1982.) DAI 43A: 650;

September 1982. [DA8218176]

The curriculum design included concepts for five attribute strands, metric units appropriate for each, objectives, and procedures. (grades K-12)

Layne, Thomas Norwood. A Comparison Study of the Relative Effectiveness of Two Problem-Solving Strategies When Taught to Poorly Prepared College Mathematics Students. (George Peabody College for Teachers of Vanderbilt University, 1982.) DAI 43A: 1867; December 1982. [DA8227090]

The two treatments were equally effective for simple and for novel problems, while the translation/computation strategy was more effective than the Polya strategy for complex problems. (college)

Lee, Jinn-Bao. A Curriculum Model for Computer Literacy in Taiwan. (Texas A&M University, 1982.) DAI 43A: 702; September 1982. [DA8219119] [secondary]

Lee, Mabel Christine. The Impact of Preschool Education Programs on the Cognitive and Affective Behaviors of Appalachian Children in Bedford and Huntingdon Counties. (The Pennsylvania State University, 1981.) DAI 42A: 3857; March 1982. [DA8129178] [grades 1-3]

Levine, Stephen Gary. An Investigation of the Effects of Title I Programming on the Achievement of Fourth and Fifth Grade Students in a Large Urban School System. (The University of Wisconsin-Milwaukee, 1982.) DAI 43A: 1895; December 1982. [DA8227460] [grades 4, 5]

Lieby, Joseph. Automatization Cognitive Style and the Selection of an Instructional Method for Teaching Basic Math Facts to Learning Disabled and Compensatory Education Students. (Columbia University Teachers College, 1981.) DAI 42A: 4400; April 1982. [DA8207327]

No interaction was found between cognitive style and teaching method, nor was either method superior overall. However, age appeared to be a relevant factor. (grades 2-6)

Lodholz, Richard David. The Effects of Student Composition of Mathematical Verbal Problems on Student Problem Solving Performance. (University of Missouri-Columbia, 1980.) DAI 42A: 3483-3484; February 1982. [8202649]

No significant differences in achievement were found for groups using problem writing or two commercial textbooks, but attitudes were better in the problem-writing group. (intermediate)

Loudin, Nicholas Glenn. The Relationship Between Field Dependence-Independence and Differential Achievement. (West Virginia University, 1981.) DAI 42A: 4368; April 1982. [DA8207509] [college freshmen]

Lowe, Sarah Steelman. Relationships Between Math Anxiety, Test Anxiety and Math Performance. (North Carolina State University at Raleigh, 1982.) DAI 43A: 1403; November 1982. [DA8217046]

No significant relationship was found between course grades and anxiety measures, although self-reported attitudes toward mathematics were related to both mathematics and test anxiety. (community college)

MacFarlane, William Henry. A Study of the Mathematical Competence Requirements for Graduation Among Oregon's A-AA-AAA Senior High Schools. (Oregon State University, 1981.) DAI 42A: 4343; April 1982. [DA8207489]

Schools classified as A and AAA were most closely aligned in their interpretation of mathematical competencies. (secondary)

Maggio, Betty Anne Millar. Validation of an Instrument to Measure Piaget's Stage of Formal Operations. (Boston College, 1981.) DAI 42A: 3937; March 1982. [DA8203966] [grade 8]

Mandelker, Annabel Volk. The Effects of Direct Teacher Instruction and Seatwork on the Acquisition of Math Facts. (The Pennsylvania State University, 1981.) DAI 42A: 4401; April 1982. [DA8205940]

For four or five of the six pupils studied, the direct instruction resulted in higher scores and faster rates than did seatwork. (elementary)

Manzer, William Hector. Applications of Mathematics for Classroom Instruction in Several Areas of Undergraduate Mathematics. (University of Northern Colorado, 1982.) DAI 43B: 157; July 1982. [DA8213275]

Applications emphasizing calculus techniques, physics, matrix methods, energy, statistics, and miscellaneous topics were collected. (college)

Marchionini, Gary Joseph. Computer Enhanced Practice and Introductory Algebra. (Wayne State University, 1981.) DAI 42A: 4753-4754; May 1982. [DA8209331]

Use of computer-enhanced practice did not benefit achievement or attitudes. (grade 9)

Mattair, Judy Elizabeth Moore. The Use of Error Pattern Analysis in the Diagnosis and Remediation of Whole Number Computational Difficulties. (Texas A&M University, 1981.) DAI 42A: 4343; April 1982. [DA8206643]

In-service training was significantly effective in improving teachers' scores in analyzing errors. (teachers in grades 3-6)

Matthews, Eugene. A Study of the Relationship Between Student Achievement in Mathematics and Performance Evaluation and Other Variables. (University of South Carolina, 1981.) DAI 42A: 5022; June 1982. [DA8212251]

Significant correlations were found between student achievement in mathematics and both performance evaluation and professional growth, but not parent-teacher communication or grouping procedures. (teachers in grades 2-6)

Matus, Virginia Catherine. A Comparison of Reading and Math Achievement for Learning Handicapped Limited English Proficient Students Receiving Bilingual or English-Only Instruction. (University of Southern California, 1982.) DAI 43A: 757; September 1982. [--] [elementary?]

McAnnich, Georgia Newman. Relationship Between Selected Principal Characteristics and Pupil Achievement in Title I Elementary Schools. (University of Southern California, 1982.) DAI 43A: 997-998; October 1982. [--] [elementary principals]

McDonald, Janet Lee Blumenstalk. The Role of Cognitive Stage in the Development of Cognitive Structures of Geometric Content in the Adolescent. (State University of New York at Albany, 1982.) DAI 43A: 733; September 1982. [DA8218709]

Students having formal operational schemata structured content more like subject matter experts and teachers than did concrete operational students. (grade 10)

McFadden, JoAnn Keys. A Comparison of the Performance of Learning Disabled and Non-Learning Disabled Children on the Key Math Diagnostic Arithmetic Test. (University of Virginia, 1981.) DAI 42A: 3948; March 1982. [DA8205470]

The two groups differed significantly overall, but did not significantly differ on some subtests. (ages 9-11)

McKethan, Lillian Dolores. An Attitudinal and Achievement Comparison of Mathematics Deficient Lincoln University Freshmen Resulting from Structured Peer Tutoring Versus No Peer Tutoring in Mathematics. (Temple University, 1982.) DAI 43A: 710; September 1982. [DA8217781]

Tutored students had significantly higher attitude scores than those not choosing to be tutored, but achievement differences were not significant. (college freshmen)

McMeniman, Marjorie. Logical Reasoning in Adolescence: Interpretation of Class Inclusion Statements and Recognition of Logically Necessary, Possible, and Impossible Conclusions in Syllogistic Reasoning. (Adelphi University, 1982.) DAI 43B: 901; September 1982. [DA8219002]

Four experiments were conducted to determine how students reacted to the statements, using Venn diagrams. (grades 7, 9, 12)

Minix, Nancy Alice Holder. An Exploratory Study of Mathematics Anxiety in Elementary School Children and Its Implications for Program and Staff Development. (George Peabody College for Teachers of Vanderbilt University, 1981.) DAI 42A: 4279; April 1982. [DA8205832]

Teachers believed 13 per cent of their pupils were experiencing mathematics anxiety. Characteristics, causes, and intervention strategies were described. (teachers in grades 1-6)

Mitchell, Charles Edward. First-, Second-, and Third-Grade Children's

Performance on Selected Verbal and Symbolic Subtraction Problems. (The University of Wisconsin-Madison, 1981.) DAI 42A: 5049; June 1982. [DA8206844]

Open sentence or verbal problem item type, number size, context, and existence of a whole-number solution generally affected children's ability to produce a correct answer, as did solution strategy. (grades 1-3)

Moore, Bobbie Henderson. The Effect of the Hand-Held Electronic Calculator on Attitude Toward Mathematics and Mathematics Achievement of Third-Grade Learners. (University of San Francisco, 1982.) DAI 43A: 1457; November 1982. [DA8220762]

Students using calculators had significantly higher achievement and less positive attitudes immediately after instruction than those using rods or paper and pencil only. (grade 3)

Moskalski, Michael Dennis. The Effects of Teacher Strikes on Student Achievement. (The Pennsylvania State University, 1981.) DAI 42A: 2954; January 1982. [8129192] [grades 5, 8, 11]

Moustafa, Ahmed-Elsayed A. A Status Report of Grade 3-5 Mathematics Instruction in Al-Minya City, Egypt, with Particular Concern for the Teaching and Learning of Division Facts. (The Florida State University, 1982.) DAI 43A: 388; August 1982. [DA8214936] [grades 3-5]

Mueninghoff, Elaine Marie. What's Happening in the Classroom: An Analysis of Classroom Interactions. (University of Cincinnati, 1982.) DAI 43A: 1421; November 1982. [DA8223065] [elementary]

Neves, David Michael. Learning Procedures from Examples. (Carnegie-Mellon University, 1981.) DAI 43B: 1240; October 1982. [DA8215894]

A computer program was developed to analyze examples in an algebra textbook. (grade 9)

Nicholson, Theodore Roosevelt, Sr. Pertinent Interviewing Technique in an Investigation of Lag in Conservation of Number Among Black American Children. (University of Illinois at Urbana-Champaign, 1981.) DAI 42A: 3049-3050; January 1982. [8127657] [grades K-3]

Nolan, Joan Manning. Identification of Factors to Predict Enrollment in Advanced Math Courses Among High School Students. (Boston College, 1981.) DAI 42A: 3985; March 1982. [DA8203983]

Differences between the aspirations and attitudes of males and females were noted. (secondary)

Normandia, Bruce Richard. The Relationship Between Cognitive Level and Modes of Instruction, Teacher-Centered and Activity-Centered, to the Learning of Introductory Transformational Geometry. (Rutgers University The State University of New Jersey (New Brunswick), 1981.) DAI 43A: 102; July 1982. [DA8214537]

The activity-centered group performed significantly better than the teacher-centered group. (grade 8)

Kuhlicek, Allan Lee. Relationship of School Boundary Conditions, Gemeinschaft Conditions, and Student Achievement Scores in Reading and Mathematics in Selected Milwaukee Public Elementary Schools. (Marquette University, 1982.) DAI 43A: 1039; October 1982. [DA8217284] [grade 6]

O'Brien, Thomas Daniel. A Historical Development of the LaPlace Transform in Modern Operational Calculus with Applications to Mathematics, Physics, and Technology. (Columbia University Teachers College, 1981.) DAI 42A: 4343-4344; April 1982. [DA8207331]

This sourcebook for teachers of mathematics and engineering contains background information and applications. (college)

Oden, Robin Earl. An Assessment of the Effectiveness of Computer-Assisted Instruction on Altering Teacher Behavior and the Achievement and Attitudes of Ninth Grade Pre-Algebra Mathematics Students. (Wayne State University, 1982.) DAI 43A: 355; August 1982. [DA8216159]

Changes in teachers' indirect influence and in students' achievement and attitudes scores were significantly greater for those using computer-assisted instruction. (grade 9)

Offner, Richard Brannen. The Effects of Reinforcement History on the Subsequent Use of Contingent Self-Reinforcement by Educable Mentally Retarded Children. (The University of Wisconsin-Madison, 1981.) DAI 42A: 4792; May 1982. [DA8129794] [elementary (MRs)?]

Onnuam, Duangduen. Constructing and Validating a Hierarchy of Elementary School (K-6) Intuitive Euclidean Geometry Classification and Relation Concepts. (Kansas State University, 1981.) DAI 42A: 4717; May 1982. [DA8207771]

The structures of two proposed hierarchies were strongly supported by a panel of experts. (grades K-6)

Oppenheimer, Philip. Increasing Teachers' Use of Non-Symbolic Material in Seventh-Grade Mathematics Classes: The Effectiveness of a Facilitator Model. (The Union for Experimenting Colleges and Universities, 1982.) DAI 43A: 1867-1868; December 1982. [DA8225092]

The program was effective in increasing use of non-symbolic material, but failed to improve achievement. (grade 7)

Orfan, Lucy Jajosky. An Investigation into Mathematics Education for Gifted Elementary Students. (Fairleigh Dickinson University, 1981.) DAI 42A: 3484; February 1982. [8202093]

Case studies of three pupils, a survey of school district practices, and recommendations are included. (elementary)

Padilla, Rosemary Kathryn Lund. Effects of Age, Ability, and

Irrelevant Displacement on Young Children's Number Recognition Performance. (University of Georgia, 1982.) DAI 43A: 1898-1899; December 1982. [DA8225220]

Counting-and-sorting ability was more important than age in number recognition performance. (ages 3-6)

Parolini, Roger John. Reading, Spelling, and Arithmetic Disabilities: A Neuropsychological Investigation Using Luria's Methods. (The University of Nebraska-Lincoln, 1982.) DAI 43B: 1996; December 1982. [DA8227033] [ages 13-18]

Paolicchi, Robert Henry. The Effect of School Closing on the Achievement of Affected Students. (Northern Illinois University, 1982.) DAI 43A: 1001; October 1982. [DA8220326] [grades 2-4]

Paul, Douglas James. The Effects of Adjusting Readability on the Difficulty of Mathematics Story Problems. (The University of Iowa, 1981.) DAI 42A: 4718; May 1982. [DA8210026]

Significant effects were not found for readability level, and the use of readability formulas was questioned. (grades 3-6)

Pearce, Jonathan. Influence of Education Journals on the Classroom Practice of California Public High School Department Heads. (University of the Pacific, 1981.) DAI 42A: 3830; March 1982. [DA8203384] [secondary in-service]

Phillips, Robert Leonard. The Effects of an Attitude/Career Unit on Middle School Students' Attitudes Toward Mathematics and Intentions to Continue the Study of Mathematics. (The University of Texas at Austin, 1982.) DAI 43A: 710-711; September 1982. [DA8217924]

The unit positively altered students' attitudes toward mathematics, but did not increase the number of mathematics courses they planned to take. (middle school)

Phillips, Susan E. Comparison of Latent Trait and Traditional Methods in the Equating Phase of a Scaling Operation on Achievement Tests. (The University of Iowa, 1981.) DAI 42A: 4801; May 1982. [DA8210029] [grades 4, 8]

Pinsel, Jerry Elizabeth. Math Attitude in Terms of Various Factors. (The Louisiana State University and Agricultural and Mechanical Col., 1982.) DAI 43A: 654; September 1982. [DA8216868]

The relationship between math attitude and the extent of high school training was significant for non-remedial students, but largely non-significant for remedial students. (college)

Plumb, Robert Gordon. The Cognitive Effect on Cross-Age Tutors of Mathematics. (University of Idaho, 1982.) DAI 43A: 1457; November 1982. [DA8224574]

Tutors made significant achievement gains compared to non-tutors. (grades 1-6)

Poland, A. Scott. The Effects of Cognitive Behavior Modification on

the Math Achievement of Reflective and Impulsive Second Grade Students. (Ball State University, 1981.) DAI 42B: 3403; February 1982. [8201896]

Behavior modification tutoring and conventional tutoring were ineffective regardless of cognitive style when compared to the control group receiving no tutoring. (grade 2)

Polonio Jones, Narcisa A. A Study of the Possible Relationship Between the Type and Frequency of Parental Participation and Student Achievement in an Urban School Setting. (University of Massachusetts, 1982.) DAI 43A: 1021; October 1982. [DA8219817] [elementary]

Porter, Elijah. An Assessment of the Effectiveness of a Teacher Behavior Training Program on the Achievement and Attitudes of Academically Talented Ninth-Grade Students in Reading and Mathematics. (Wayne State University, 1981.) DAI 42A: 4708; May 1982. [DA8209348] [teachers in grade 9]

Powell, Edwin Dan, Jr. The Effects of Grade Retention on the Academic Achievement of Elementary School Pupils. (North Texas State University, 1982.) DAI 43A: 775; September 1982. [DA8217647] [elementary]

Prince, Leo Robert. The Relationship of Attitude, Achievement, and Introversion-Extraversion Among High School Students in Euclidean and Transformational Geometry Classes. (Fordham University, 1982.) DAI 43A: 122; July 1982. [DA8213616]

No significant achievement or attitude differences were found between students in traditional or transformational geometry classes, nor was introversion-extraversion significant. (secondary)

Rachlin, Sidney Lee. Processes Used by College Students in Understanding Basic Algebra. (University of Georgia, 1981.) DAI 42A: 4344; April 1982. [DA8206303]

The understanding of algebra of four women students was studied through 'think aloud' sessions. (college)

Ramires, Aura Ibis. Modality and Field Dependence-Independence: Learning Style Components and Their Relationship to Mathematics Achievement in the Elementary School. (The Florida State University, 1982.) DAI 43A: 666; September 1982. [DA8218653]

Modality strength and preference were not significant in explaining achievement variance, while field dependence-independence explained one-third of the variance in females' scores and environment explained one-fourth of males' variance. (grade 4)

Reding, Ann Harbaugh. The Effects of Computer Programming on Problem Solving Abilities of Fifth Grade Students. (University of Wyoming, 1981.) DAI 42A: 3484-3485; February 1982. [8201793]

Students with no access to computers achieved a higher mean gain than did students using computer programming. (grade 5)

Reed, Bill Dean. Metric System Instruction Within the Department of Defense Dependents Schools—Germany. (University of Missouri-Columbia, 1981.) DAI 43A: 97; July 1982. [DA8213865] [secondary?]

Reese-Dukes, Judson Leon. A Comparison of the Effects of Classroom Placement Status on the Self-Concept and Academic Achievement of Self-Contained and Mainstreamed Educable Mentally Retarded Students. (The University of Tennessee, 1981.) DAI 42A: 3951; March 1982. [DA8203863] [elementary (MRs)?]

Rekdal, Cynthia Kan. The Effects of Logical Versus Random Sequencing of a Spatial Curriculum on the Mathematical Problem-Solving and Spatial Abilities of Intellectually, Academically Gifted Fifth and Sixth Grade Males and Females. (University of Washington, 1982.) DAI 43A: 1819; December 1982. [DA8226593]

No significant differences in spatial learning or problem solving were found between the two sequences. (grades 5, 6)

Richmond, Alan Dean. Metrics: Sixth-Grade Student Achievement and Teacher Attitudes in Simi Valley, California, 1982. (Brigham Young University, 1982.) DAI 43A: 1830; December 1982. [DA8224802]

Students were proficient in their knowledge of the four basic metric units, but not in prefixes or relationships to reasonable measurements. Teachers had positive attitudes, but felt poorly trained to teach metrics. (grade 6)

Robicheaux, Ray Thomas, Sr. Developmental Mathematics Course Performance of College Freshmen as Related to Piagetian Cognitive Functioning Level. (McNeese State University, 1981.) DAI 43A: 388; August 1982. [DA8211203]

Piagetian level was significantly related to course grade. Both concrete and transitional levels benefited from the treatment aimed at enhancing functional reasoning. (college)

Robinson, Bertha Louise. An Investigation of the Effects of Teaching General and Specific Strategies for Word Problem Solving to Primary Grade Children. (University of Pittsburgh, 1982.) DAI 43A: 711; September 1982. [DA8218183]

Mean scores increased following instruction on a general strategy and using diagrams. (ages 4-8)

Rodman, Susan Margaret. The Differential Effects of Advance Organizers and Behavioral Objective on Achievement in a Basic Statistics Course. (West Virginia University, 1982.) DAI 43A: 736; September 1982. [DA8216785] [college]

Roling, Mary Angela Caylor. The Effect of the Andrews Primary Parent Involvement Program on Student Achievement in Reading and Mathematics and on Parent Involvement. (University of South Carolina, 1981.) DAI 42A: 5022; June 1982. [DA8212259] [primary grades]

Rosnick, Peter Carl. The Use of Letters in Precalculus Algebra.

(University of Massachusetts, 1982.) DAI 43A: 1071-1072; October 1982. [DA8219845]

Textbook analyses, diagnostic tests, and interviews were used to ascertain how students were taught and used letters. (college)

Ross, Brian Harvey. The Role of Reminding in Learning a Cognitive Skill. (Stanford University, 1982.) DAI 43B: 1286; October 1982. [DA8220527] [college?]

Rupley, William Houston. The Effects of Numerical Characteristics on the Difficulty of Proportion Problems. (University of California, Berkeley, 1981.) DAI 42A: 3049; January 1982. [8200258]

Differences in the ways students at each grade level dealt with the problems were noted. (grades 7, 9, 11)

Ryan, Barbara Ann. A Comparison of Head Start and Non-Head Start Indian Students in Grades Two and Five with Respect to Selected Educational Characteristics. (Northern Arizona University, 1982.) DAI 43A: 1879; December 1982. [DA8224752] [grades 2, 5]

Ryder, Donald Gowen. The Effect of Hand-Held Calculators and Assigned Homework on the Achievement, Attitude, and Persistence of Remedial Algebra Students in a Small, Four-Year College. (Georgia State University-College of Education, 1982.) DAI 43A: 711; September 1982. [DA8219503]

No significant differences in achievement, attitude, or persistence were found when calculators or homework were used or not used. (college)

Saito, Noriko. A Comparison of Performance on Piagetian Tasks Among Japanese and Anglo-American Children Six Years of Age Who Were Exposed to One Language and Two Languages. (University of Southern California, 1982.) DAI 43A: 1093-1094; October 1982. [--] [age 6]

Saltzen, JoAn Alderman. Sex Differences in Mathematics Performance and the Organization of Instruction in the Elementary School. (University of Oregon, 1982.) DAI 43A: 1901; December 1982. [DA8224863]

No sex differences in achievement were found within schools, but high performance for primary girls was found in the achievement-paced curriculum. (elementary)

Santoso, John. Intrinsic-Extrinsic Motivation and Arithmetic Activity Among Children with Internal and External Locus of Control. (University of California, Riverside, 1981.) DAI 42A: 3519; February 1982. [8201207]

No significant interactions were found between locus of control and reward conditions, nor was the reward treatment effective. (grade 3)

Schallhorn, Mary Margaret. The Effect of a Cognitive Style Mapping Program on Achievement of Community College Students with Internal

Locus of Control and External Locus of Control. (The University of Oklahoma, 1982.) DAI 43A: 389; August 1982. [DA8215795]

The group not given the mapping program scored higher than those given the program in basic mathematics courses. (community college)

Schenker, Sandra Lee. The Relationship Between Matched Middle School Student/Teacher Cognitive Style and Achievement, Self-Esteem, and Attitude Toward School Subject. (The University of Connecticut, 1981.) DAI 42A: 3860; March 1982. [DA8125459] [grade 7]

Schulman, Linda A. The Ability of Fourth Grade Students to Solve Five Types of Mathematical Problems. (Boston University School of Education, 1981.) DAI 42A: 3895-3896; March 1982. [DA8203906]

Students experienced the least difficulty with one-step problems. Computation ability and intelligence were the best predictors of variance in problem-solving ability; reading comprehension and sex did not contribute to any of the variance. (grade 4)

Sedra, Fayza Iskander. The Mathematics Assessment of Egyptian Students at the Sixth-Grade Level, 1981. (New York University, 1982.) DAI 43A: 1868; December 1982. [DA8226791] [grade 6]

Senigaur, Edward. The Teacher's Perception of the Principal's Leadership Behavior and Faculty Morale: Their Impact on Student Achievement. (University of Houston, 1981.) DAI 42A: 4679; May 1982. [DA8210436] [elementary in-service]

Seraydarian, Thomas, Jr. An Evaluation of the Compensatory Education Program in Computation Skills in Grades 7 and 8 Clearview Regional High School, Mullica Hill, New Jersey. (University of Pennsylvania, 1982.) DAI 42A: 4754; May 1982. [DA8207582]

Achievement in computation skills increased across all treatment groups, with girls making greater gains than boys and having lower decreases in self-concept and attitude toward school. (grades 7, 8)

Sevigny, Karen Ellen. A Longitudinal Study of the Cognitive Growth of Pupils Who Were Participants in Preschool Programs in Three Detroit Public Schools. (Wayne State University, 1981.) DAI 42A: 4713; May 1982. [DA8209364] [grades K-5]

Shannon, Henry Dukes. A Study of the Effectiveness of Perception Analysis Training on the Mathematics Attitude and Mathematics Achievement of Disadvantaged Black Students. (Washington University, 1982.) DAI 43A: 1430; November 1982. [DA8223815]

The training was effective in increasing students' mathematics motivation, achievement, and grades, but attitude and self-confidence were not altered significantly. (grade 11)

Sherwood, Norman Paul. An Interim Appraisal of the Basic Skills Education Program in Meeting the Needs of the Individual and the Army. (University of Southern California, 1982.) DAI 43A: 1004;

October 1982. [--] [adults]

Showalter, Millard E. Interactive Effects Between Field-Dependence-Independence and Level of Instructional Support in Elementary Probability for Non-Science College Students. (University of Virginia, 1981.) DAI 42A: 3485; February 1982. [8129301]

Students of both types performed equally well with both methods. (college)

Shroyer, Janet Carolyn. Critical Moments in the Teaching of Mathematics: What Makes Teaching Difficult? (Michigan State University, 1981.) DAI 42A: 3485; February 1982. [8202513]

Behaviors of three teachers were studied through process-tracing and stimulated recall. (elementary in-service)

Signer, Barbara Renee. A Formative and Summative Evaluation Study of a Project Integrating the Microcomputer with Second Year High School Algebra Instruction. (University of South Florida, 1982.) DAI 43A: 711; September 1982. [DA8216889]

Significant achievement differences favored the non-computer group, while attitudes were not significantly different. (grade 11)

Singh, Raj Kaur. Peer-Tutoring: Its Effects on the Math Skills of Students Designated as Learning Disabled. (The American University, 1981.) DAI 42A: 4793; May 1982. [DA8208064]

The peer-tutored group made significant gains in all scores, while non-tutored students made significant gains on concepts/applications but not computation. (grades 9-12)

Singh, Santokh. Analysis of Processes Involved in Problem Solving. (University of Oregon, 1982.) DAI 43A: 356; August 1982. [DA8215316]

Differences in the strategies used by 12 students were reported. (grades 7, 9, 11)

Siskind, Theresa Gayle. Correlates of Item Difficulty of Selected Criterion-Referenced Tests: Attributes of Thought Process Elicited to Answer Item, Attributes of Item Stimulus Material and Plausibility of Distracters. (University of South Carolina, 1982.) DAI 43A: 1122; October 1982. [DA8220225]

Analysis of 192 mathematics test items verified the expected relationships. Item difficulty was related to the complexity of the thought process elicited, and unrelated to attributes of the item per se. (grades 6, 8)

Slotter, June Eleanor. The Significance of IQ, Self-Esteem and Causal Attribution Variables for the Prediction of Academic Achievement an and Discrimination of High Academic Achievers and Low Academic Achievers. (The University of North Carolina at Chapel Hill, 1981.) DAI 42B: 4973-4974; June 1982. [DA8211648] [grade 10]

Smetko, John Anthony. Student Perceived Teacher Facilitation as a

Correlate of Academic Achievement, Academic Self Concept and Self Concept Among Inner City Seventh and Eighth Graders. (Northwestern University, 1982.) DAI 43A: 1902; December 1982. [DA8226021] [grades 7, 8]

Smith, Johnny L. A Study of the Relationships of Sequences of Enrollment in College Remedial Mathematics to Grades in a Subsequent College Algebra Course and to Persistence in College. (The University of Alabama, 1982.) DAI 43A: 1457; November 1982. [DA8224307]

Students who needed remediation fared best when they took remedial mathematics before college algebra. (college)

Smith, Steven Harmon. Achievement and Long-Term Retention in Geometry Using: Mastery Learning, Student Choice and Traditional Learning in the Elementary School. (Brigham Young University, 1981.) DAI 42A: 3423; February 1982. [8126318]

The mastery learning group made significantly greater achievement gains than the student choice or traditional groups, but retention did not differ. (grade 4)

Solkov, Janice Ilene. An Exploration into the Development of Exit Criteria for Mainstreamed Sixth Grade Low Income Bilingual Students. (Temple University, 1982.) DAI 43A: 1122; October 1982. [DA8217804] [grade 6]

Sparks, Scott Steven. The Relation of Off-Task Behavior to Performance Among Educable Mentally Retarded, Learning Disabled, and Normal Middle School Students. (The University of Florida, 1981.) DAI 42A: 3953; March 1982. [DA8203723]

No relationship was found between time off-task and performance on addition. The EMR group differed significantly from LD and normal groups, with more time off-task. (ages 13-15)

Speltz, Matthew Louis. The Effects of Standardized and Three Types of Group Contingencies on the Academic and Social Behaviors of Learning Disabled Children. (University of Missouri-Columbia, 1980.) DAI 42B: 3445; February 1982. [8202667]

Differences among the contingencies had no significant effect on arithmetic worksheet scores. (elementary?)

Stall, Colleen Harmon. The Effect of Early Auditory Deprivation on Time Estimation Ability. (Texas Tech University, 1982.) DAI 43A: 1902-1903; December 1982. [DA8221984] [ages 13-21]

Stapleton, Ella Mae. Two Year Comparative Analysis of Mathematical Achievement on the California Achievement Test of Two Hundred Third Grade Students Taught in Mathematics Methodologies in the Detroit Public School District. (Wayne State University, 1982.) DAI 43A: 389; August 1982. [DA8216173]

No overall achievement difference was found between pupils using CSMP or another program. (grade 3)

Steele, Kathleen Jeanne Shaver. The Effect of Computer-Assisted

Mathematical Instruction upon the Computer Literacy of Fifth-Grade Students Using a Microcomputer. (Purdue University, 1981.) DAI 42A: 3433; February 1982. [8200736]

Use of computer-assisted drill and practice significantly improved both the affective and cognitive computer literacy of students, but no difference in acquisition of mathematical skills was found compared with a group using an individualized kit. (grade 5)

Steeves, Kathleen Joyce. Memory as a Factor in the Computational Efficiency of Dyslexic Children with High Abstract Reasoning Ability. (The Johns Hopkins University, 1982.) DAI 43A: 1095; October 1982. [DA8220052]

The only significant interaction between dyslexic and gifted pupils was on abstract reasoning. (ages 10-14)

Stephens, Walter Maxwell. Mathematical Knowledge and School Work: A Case Study of the Teaching of Developing Mathematical Processes. (The University of Wisconsin-Madison, 1982.) DAI 43A: 1414; November 1982. [DA8216267]

Teachers saw their role as managing the efficient transfer of a body of content to their pupils. They occasionally adjusted procedures, but rarely DMP content. (elementary in-service)

Stevens, Patricia Carol. An Investigation of Socio-Cultural Factors and Mathematics Performance of Ninth Grade General Mathematics Students. (University of Missouri-Kansas City, 1982.) DAI 43A: 1072; October 1982. [DA8216966]

No sex differences were found, but a number of other variables yielded significant results. (grade 9)

Stork, Gilbert Harold. A Model for Evaluating Academic Program Effectiveness: A Study of Mathematics Instruction. (Brigham Young University, 1981.) DAI 42A: 4754; May 1982. [DA8209691]

Adequate sources of data were found available to evaluate the model. (community college)

Stover, Georgia Blackburne. Structural Variables Affecting Mathematical Word Problem Difficulty in Sixth Graders. (University of San Francisco, 1979.) DAI 42A: 5050; June 1982. [DA8211361]

Diagram, extraneous information, and order of numerical presentation appeared to be variables contributing heavily to problem-solving difficulty. Students were taught to manipulate these variables successfully. (grade 6)

Sullivan, Frank Joseph, III. A Comparison Between Attack Strategy Training and Attack Strategy Training in Combination with Verbal Self-Instruction in Teaching Academic Tasks to First-Graders. (University of Oregon, 1981.) DAI 42A: 3520; February 1982. [8201866] [grade 1]

Sullivan, Patrick Dennis. A Comparison of Students in an Urban Mini-School Program, Designed to Retain and Improve the Reading,

English, and Mathematics Achievement of Potential Dropouts, with Students in a Traditional High School Program. (New York University, 1981.) DAI 42A: 2962; January 1982. [8128251] [ages 16, 17]

Summa, Donato James. The Effects of Proof Format, Problem Structure, and the Type of Given Information on Achievement and Efficiency in Geometric Proof. (The Pennsylvania State University, 1981.) DAI 42A: 3084; January 1982. [8129226]

The group using the flow-diagram format had significantly higher scores on the proof-writing test and was more efficient. (grade 10)

Suvapunt, Chinda. Problems and Needs in Preservice Elementary School Mathematics Programs in Thailand. (University of Missouri-Columbia, 1980.) DAI 42A: 3424; February 1982. [8202671] [elementary teachers]

Thompson, Jack Stanley. An Analysis of Selected Characteristics Contributing to High Achievement Among Tenth and Twelfth Grade Students in Washington State. (University of Washington, 1981.) DAI 42A: 4997; June 1982. [DA8212642] [grades 10, 12]

Thompson, Patrick Wilfrid. A Theoretical Framework for Understanding Young Children's Concepts of Whole Number Numeration. (University of Georgia, 1982.) DAI 43A: 1868; December 1982. [DA8225240]

The development of number and place value concepts for eight students was traced. (grades 1, 2)

Tomblin, Carol Reynard. Problem-Solving Performance and Strategies of Learning-Disabled Adolescent Boys Compared with Two Groups of Normally-Achieving Boys. (University of California, Los Angeles, 1982.) DAI 43A: 1933-1934; December 1982. [DA8225611]

LD students spontaneously generated and used problem-solving strategies, but these strategies did not appreciably affect their performance. (grades 4, 8)

Travis, Donald O'Neil. A Comparative Study of the Basic Skills Attainment of Sixth Grade Pupils in Public and Private Schools in Volusia County. (Florida Atlantic University, 1981.) DAI 42A: 3865; March 1982. [DA8205060] [grade 6]

Turinese, David Martin. A Use of the Hand Calculator in the Second Year Algebra Curriculum. (Boston University School of Education, 1982.) DAI 43A: 102; July 1982. [DA8213466]

The calculator-oriented materials were more effective than textbook materials at lower understanding levels, and equally effective at higher levels. (grade 11)

Turner, Kenneth Vernon, Jr. An Investigation of the Role of Spatial Performance, Learning Styles, and Kinetic Imagery in the Learning of Calculus. (Purdue University, 1982.) DAI 43A: 1868; December 1982. [DA8225779]

Students with high spatial performance tended to score higher and to prefer graphical representations. (college)

Turner, Mary Alice Giglio. The Effect of Retention upon Student Performance. (The Louisiana State University and Agricultural and Mechanical College, 1981.) DAI 42A: 4718; May 1982. [DA8207843] [grades 1-8]

Turner, Sandra Vogel. Encouraging Women's Participation in High School Mathematics: An Intervention Study. (University of South Florida, 1982.) DAI 43A: 712; September 1982. [DA8216890]

Students attending the after-school sessions regularly were more likely than non-attenders to continue with college-preparatory mathematics and maintain satisfactory grades. (secondary)

Turpin, Ruth Esther. Classroom Climate, General Ability, and Anxiety in a Basic Skills Program for Saudi Arabian Naval Trainees. (Stanford University, 1982.) DAI 42A: 4710; May 1982. [DA8208916] [adults]

Urbanski, Joseph Valentine. The Effects of Four E Strategies and the Students' Relevant Knowledge on the Meaningful Learning of a Geometric Concept. (North Carolina State University at Raleigh, 1981.) DAI 42A: 3486; February 1982. [8128509]

In general, students learned from the one lesson. The number of 'moves' affected learning. (grades 11, 12)

Van Velsir, Gary Lynn. An Exploratory Study of Problem Solving Characteristics in Younger and Older Community College Students. (University of Maryland, 1981.) DAI 43A: 134; July 1982. [DA8214487]

No significant differences were found between age groups on problem scores, but significant differences were found on the frequencies of some strategies. (community college)

Van Zant, Susan Lucille. Impact of Elementary Grade Level Retention upon Academic Achievement, Self-Concept, and Classroom Behavior. (United States International University, 1982.) DAI 43A: 74; July 1982. [DA8215380] [elementary]

Vaughan, E. Rose Tate. The Identification of Certain Competencies Appropriate for Secondary School Business Teachers. (The University of North Carolina at Greensboro, 1982.) DAI 43A: 637-638; September 1982. [DA8218680] [secondary teachers]

von Stein, Janet Higginbotham. An Evaluation of the Microcomputer as a Facilitator of Indirect Learning for the Kindergarten Child. (Florida Atlantic University, 1982.) DAI 43A: 72; July 1982. [DA8214463]

No significant difference was found between children using or not using a computer program for learning to count and pattern shapes. (grade K)

Wallace, Dee Ann. The Relationship Between Predictive Variables and Academic Achievement. (The Pennsylvania State University, 1981.) DAI 42A: 4291-4292; April 1982. [DA8205985] [grade K]

Warner, Susan Aileen. An Investigation of the Role of Proportional Logic in Performance on Piagetian Formal Operational Tasks. (The University of Florida, 1981.) DAI 43B: 283-284; July 1982. [DA8213710] [college?]

Watson, Amie Goldsmith. A Study in Strategy Choice in Mathematics Problem Solving Among Third Grade Students. (University of San Francisco, 1982.) DAI 43A: 1072; October 1982. [DA8220765]

Visual strategies for subtraction with regrouping did not appear to be more productive than algorithmic strategies. (grade 3)

Wells, Peggy Larue. A Comparison of the Achievement of University Students Taught by an Individualized Instructional Approach vs. the Traditional Instructional Approach in a Combined Business Math/ Business Machines Course. (University of Houston, 1981.) DAI 42A: 4697; May 1982. [DA8210438] [college]

White, Hedy Judith. The Development of Children's Ability to Solve Piagetian Combinatorial Ordering Problems: Performance as a Function of Training Condition and Pretest Level. (Claremont Graduate School, 1982.) DAI 43B: 1280-1281; October 1982. [DA8220598] [grades 2-5]

Wilson, Barbara Upton. The Effects of Pacing and Cognitive Style upon Student Achievement and Attitude in Basic College Mathematics. (The College of William and Mary in Virginia, 1981.) DAI 42A: 4331; April 1982. [DA8206549]

Field-dependent students scored higher in the instructor-paced approach, while field-independent students did better using self-paced modules. (college)

Winnick, Gloria Francis. The Effect of Treatment Structure and Verbal Ability on Achievement and Attitude. (University of Southern California, 1981.) DAI 42A: 3398; February 1982. [--] [secondary]

Wiseman, E. Dewey. A Study to Determine the Effect of Both Adjunct Prequestions and Adjunct Postquestions on Achievement. (The Catholic University of America, 1982.) DAI 43A: 776-777; September 1982. [DA8213737] [elementary in-service]

Witkowski, Joseph Charles. Cognitive-Oriented Supplementary Material and Students' Cognitive Processes and Performance in College Remedial Algebra. (Illinois State University, 1982.) DAI 43A: 1458; November 1982. [DA8224099]

Although significant differences were not found in most cases, some findings favored the group using the supplementary materials. (college)

Wong, Pierina Cheng-Noi. Relationship of Two Field-Dependent-

Independent Measures to Reading and Math Achievement of Anglo-American, First-Generation Chinese- and Mexican-American Elementary School Children. (University of the Pacific, 1982.) DAI 43A: 1461; November 1982. [DA8223922] [grades 4, 5]

Woods, Gloria Rifici. A Study of Nurture of Mathematically Talented High School Children. (The Ohio State University, 1981.) DAI 42A: 3049; January 1982. [8129120]

Factors of importance in teaching gifted students were noted from involvement in a summer program for the talented. (secondary)

Wroble, Linda Maxine. Psychological and Cognitive Correlates to Academic Achievement. (Boston University School of Education, 1982.) DAI 43A: 1095-1096; October 1982. [DA8220977] [grades 5-8]

Yoo, Han-Tai. Area Perception as a Function of Geometric Shape. (Illinois State University, 1982.) DAI 43A: 1330; November 1982. [DA8224100]

The perception of area was affected by geometric shape. (college)

Yueh, Elsa Yea-Jiuan. The Effect of Computer-Assisted Arithmetic Remediation in a Program for Prospective Elementary Teachers. (Indiana University, 1981.) DAI 42A: 3486; February 1982. [8200903]

No significant differences in achievement were found between groups given remedial treatments or self-study. Remediation reinforced with algorithms led to more satisfaction than remediation with immediate feedback. (elementary preservice)

Zafar, Abdulwahab Ahmad. An Evaluation of the Mathematics Curriculum Given at the College of Education, Mecca, from the Perspective of the Teachers Who Graduated from the College in the Years 1976-1980. (Michigan State University, 1982.) DAI 43A: 1415-1416; November 1982. [DA8216602] [secondary in-service]

Zeguan, Bashir Hosni. The Development of Mathematical Understanding and Its Application to Libyan Secondary School Mathematics. (The University of North Carolina at Greensboro, 1982.) DAI 43A: 712; September 1982. [DA8218683] [secondary]

Journals Searched

Journals indicated by an asterisk were searched page by page. For the remainder, either one or more issues could not be searched or articles were located through the use of an index such as *CIJE*. The number in parentheses indicates the number of references listed.

Alberta Journal of Educational Research (8)
American Educational Research Journal (12)
American Journal of Mental Deficiency (1)
American Mathematical Monthly (0)
Arithmetic Teacher (8)
Australian Mathematics Teacher (2)
Behavior Therapy (1)
Behavioral Disorders (1)
British Journal of Educational Psychology (5)
Capstone Journal of Education (1)
Child Development (11)
Child Study Journal (1)
Cognitive Psychology (4)
Contemporary Education (0)
Contemporary Educational Psychology (1)
Developmental Psychology (4)
ECTJ (2)
Education (1)
Education 3-13 (1)
Education and Training of the Mentally Retarded (1)
Education and Treatment of Children (2)
Educational and Psychological Measurement (13)
Educational Leadership (3)
Educational Perspectives (1)
Educational Research (1)
Educational Research Quarterly (1)
Educational Researcher (1)
Educational Studies (1)
Educational Studies in Mathematics (11)
Educational Technology (2)
Electronic Learning (1)
Elementary School Journal (9)
Exceptional Children (1)
Genetic Psychology Monographs (1)
Gifted Child Quarterly (1)
Illinois School Research and Development (1)
Intelligence (2)
International Journal of Behavioral Development (1)
International Journal of Psychology (1)
Journal for Research in Mathematics Education (25)
Journal of American Indian Education (1)
Journal of Applied Developmental Psychology (1)
Journal of Child Language (1)
Journal of Clinical Psychology (1)
Journal of Computers in Mathematics and Science Teaching (3)
Journal of Correctional Education (1)
Journal of Counseling Psychology (1)
Journal of Cross-Cultural Psychology (1)
Journal of Curriculum Studies (2)
Journal of Educational Measurement (7)
Journal of Educational Psychology (18)

*Journal of Educational Research (10)
*Journal of Experimental Child Psychology (2)
Journal of Experimental Education (3)
Journal of Experimental Psychology (3)
*Journal of Genetic Psychology (11)
Journal of Learning Disabilities (1)
Journal of Research and Development in Education (1)
*Journal of Research in Science Teaching (3)
Journal of School Psychology (5)
*Journal of Social Psychology (2)
Journal of Teacher Education (1)
Journal of Visual Impairment and Blindness (1)
Learning Disability Quarterly (2)
*Mathematics and Computer Education (1)
Mathematics in School (5)
*Mathematics Teacher (3)
Mathematics Teaching (1)
Ohio Business Teacher (1)
Perceptual and Motor Skills (2)
Phi Delta Kappan (1)
*Psychological Abstracts (0)
*Psychological Bulletin (3)
*Psychological Reports (8)
Psychological Review (2)
*Psychology in the Schools (9)
Quarterly Journal of Experimental Psychology (1)
Reading Improvement (1)
Research Communications in Psychology, Psychiatry and Behavior (1)
Review of Educational Research (2)
School Psychology Review (1)
*School Science and Mathematics (14)
Sex Roles: A Journal of Research (1)
*Two-Year College Mathematics Journal (0)

INDEX

This index is designed to help the reader locate references to designated mathematical topics. Not all studies are included, nor is the cross-referencing exhaustive. The studies have been grouped by articles and dissertations; level is indicated by E, elementary; S, secondary; and C, college and other post-secondary.

Achievement

Articles

Anderson et al. S
Antonak et al. E
Archer and Edwards E
Armstrong and Price S
Battle and Labercane E/S
Becker S
Benbow and Stanley E/S
Benbow and Stanley C
Bloom E/S
Bragman and Hardy E
Bridgeman C
Burke C
Burton and Jones E/S
Button and Fleming C
Carpenter et al. S
Dekkers et al. S
Ford et al. E/S
Hansford and Hattie E/S/C
Kaplan and Plake C
Kavale E
Lorenz E
Low and Clement E
McCormack-Larkin and Kritek E
Perl S
Peterson and Swing E
Rossmiller E
Rust et al. E
Sandoval E
Schofield E
Serow and Davies S
Sexton and Treloar E
Smith et al. S
Stigler et al. E
Stones et al. C
Suddick and Collins C
Swing and Peterson E
Thurman et al. E
Webb *(b)* S
Welch et al. S
Whitesitt C
Wileman et al. C

Dissertations

Annice E
Bailey S
Bordeau
Carabin
Carrier
Christian
Cox, M. A.
Daniels
Darakjian
De Mary
Ebey
Farickhoff
Feijo
Haines
Haynes
Hebert
Hodge
Kerns
Lee, M.
Levine
Lowe
Matthews
McAnnich
McFadden
Moskalski
Moustafa
Nolan
Organ
Porter
Powell
Rekdai
Schulman
Sedra
Senigaur
Sherwood
Slottner
Steeves
Stork
Sullivan, P.
Thompson, J.
Turner, M.
Turpin
Van Velsir
Van Zant
Wallace
Woods
Wroble

Algebra

Articles

Booth E
Carpenter et al. S
Clement C
Saxon E

Dissertations

Alexander S
Dhafar S
Marchionini E
Neves E
Rachlin S
Signer E
Turinese E

Arithmetic Operations

Articles

Ashcraft and Fierman E
Bednarz and Janvier E
Bergan et al. C
Blakenship and Baumgartner E
Booth E
Brulle and Brulle E/S
Cook and Dossey E
Engelhardt S
Frank et al. E
Hart E/S
Hiebert S
Hiebert et al. E
Holzman et al. E
Ibarra and Lindvall E/C
Khoury and Behr E
Laing and Meyer C
Lancioni S
Moser and Carpenter E/S
Nesher et al. C
Paine et al. S
Petitto and Ginsburg E
Posner E/S
Saxe C
Schunk C
Slesnick E
Stazyk et al. E
Streefland E
Svenson and Sjoberg E/S
Swing and Peterson E

Dissertations

Barron S
Blume E

Bukatman E
Carleton E
Chan S
Fallbeck C
Fluck E
Griffin, K. S
Harris S
Henderson E
Hoy E
Lieby E
Mandelker E
Mattair E
Mitchell E
Moore E
Moustafa E
Paul E
Poland E
Shroyer E
Sparks S
Watson E

Attitudes and Anxiety

Articles

Bulmahn and Young E
Chavez and Widmer E
Darakjian and Michael S
Genshaft S
Gottfried E/S
Hansford and Hattie E/S/C
Hoyles S
Jaeger and Wolf E
Joseph and Maguire E
Leder S
Lin C
Lorenz E
McCormick C
Muller et al. E
Nyberg and Clarke E/S
Owens and Barnes S
Parsons S
Parsons et al. E
Plake and Parker C
Plake et al. C
Powers and Sanchez S
Renick et al. C
Roberts and Saxe C
Rotenberg E
Roundtree et al. C
Schofield E
Shavelson and Bolus S
Voeltz E
Whitaker E

Dissertations

Agnew E
Aguero S
Bushyager S
Cox, M. O. C
Dew C
Driscoll E
Echols E/S
Fabrey C
Freeman C
Garcia S
Giangrasso C
Glass C
Griffin, G. E
Lowe C
Minix E
Nolan S
Phillips, R. E
Pinsel C
Schenker S
Shannon S
Stevens S
Turpin C

Calculators and Computers

Articles

Battista and Krockover E
Bracey S
Carman and Kosberg E/S
Fogarty and Wang E/S
Ford et al. E/S
Forsyth and Ansley S
Grossnickle et al. S
Koop C
Leechford and Rice E
Prasad —
Roberts and Saxe C
Saracho E
Standifer and Maples E
Szetela E/S
Wileman et al. C

Dissertations

Bonjoh S
Bukatman E
Burns E/S
Diem C
Donahue E
Edwards C
Fabrey C
Fallbeck C
Godia C
Henderson E
Judd E/S
Knerr S
Larsen C
Lee, J. S
Marchionini S
Moore E
Neves S
Oden S
Reding E
Ryder C
Signer S
Steele E
Turinese S
von Stein E
Yueh E

Cognitive Style

Articles

Anglin et al. C
Barling E
Horak and Horak C
Onyejiaku S
Owens and Barnes S
Peterson and Swing E
Sawada E
Sexton and Treloar E
Swyter and Michael E
Threadgill-Sowder and Sowder E

Dissertations

Achariyakosol C
Bouldin C
Griffin, K. S
Henderson E
Homayoun S
Jenkins S
Jones, V. E
Lieby E
Loudin C
Poland E
Prince S
Ramires E
Santoso E
Schallhorn C
Schenker S
Showalter C
Sullivan E
Turner, K. C
Wilson C
Winnick S
Wong E

Diagnosis and Remediation

Articles

Albion and Salzbert E/S
Bar-Eli and Raviv E
Birenbaum and Tatsuoka S
Bragman and Hardy E
Brulle and Brulle E
Clements E
Cohen et al. E/S
Engelhardt E
Fogarty and Wang E/S
Ford et al. E/S
Frank et al. E/S
Genshaft S
Harris and King E
Konarski et al. E

Lancioni E/S
Lancy and Goldstein E
Lorenz E
Maher S
McCormack-Larkin and Kritek E
Nevin et al. E/S
Raschke et al. E/S
Spitz et al. E/C
Standifer and Maples E
Thurman et al. E
Voeltz E
Wolf and Wenzl E/S

Dissertations

Anania E/S
Bain E
Barron S
Blume E
Caputo C
Chan S
DeBoskey E
Delventhal C
Dong S
Ebey E
Fallbeck C
Gibson E/S
Greene E
Griffin, K. S
Hailey E/S
Henderson E
Jensen E
Mattair E
McKethan C
Offner E
Plumb E
Poland E
Reese-Dukes E
Seraydarian S
Shannon S
Singh, R. S
Smith, J. C
Sparks S
Wilson C
Yueh E

Ethnic and Social Variables

Articles

Anderson, C. E
Bacon et al. S
Bar-Tal et al. E
Becker and Gersten E
Brulle and Brulle E/S
Buriel E
Burton and Jones E/S
Carman and Kosberg E/S
Carnine and Gersten E
Dombrower et al. E
Giannitrapani E/S
Graziano et al. E
Harris and King E
Johnson and Johnson S
Kornbluth and Sabban E
Lancy and Goldstein E
Loranger et al. S
Low and Clement E
McCormack-Larkin and Kritek E
Meltzer E
Nevin et al. E/S
Powers and Sanchez S
Raschke et al. E/S
Rotenberg E
Sarcho E
Serow and Davies S
Tallmadge E
Voeltz E
Warrington C
Wolf and Wenzl E/S

Dissertations

Aguero S
Bardouille-Crema E
Beal E
Beckerman E
Bordeau E
Bridges S
Casey E/S
DeBoskey E
Gee S
Glass C
Goodstein E/S
Jones, V. E
Karickhoff S
Khampalikit E/S
La Main E/S
Levine E
Lieby E
Nicholson E
Smetko S
Stall S
Wong E
Wroble E/S

Geometry and Measurement

Articles

Battista et al. E
Berg et al. C
Burnett et al. C
Darke E
Guttman and Shoham S/C
Leon E
McCormick C
Saxe and Moylan E/C
Sholl and Egeth —
Shrigley E
Thorndyke and Hayes-Roth —

Dissertations

Alexander S
Bergeson E
Garrard S
Knerr S
Lawson E/S
McDonald S
Normandia S
Onnuam E
Prince S
Rekdel E
Reed S
Richmond E
Smith, S. E
Stall S
Summa S
Turner, K. C
Urbanski S
von Stein E
Wiseman E
Yoo C

Learning

Articles

Albion and Salzberg E S
Anderson, J. —
Ashcraft and Fierman E
Barling E
Becker and Gersten E
Becker et al. E
Bergan et al. E
Blakenship and Baumgartner E
Buriel E
Cancelli et al. E
Drew et al. E
Dreyfus and Eisenberg E S
Ehindero S
Eisenberger et al. C
Giannitrapani E S
Gottfried E S
Hashway S C
Holzman et al. E S
Houtz and Shaning E
Joseph and Maguire E
Konarski et al. E
Leasak et al. E
Luchins and Luchins E S C
Lysakowski and Walberg E S C
Nevin et al. E S
Paine et al. E
Peterson and Swing E
Peterson et al. E
Ross and Carnine E
Ross and Rakow C

Schunk	E
Shaw	—
Siesnick	E
Svenson and Sjoberg	E
Webb *(a, b)*	S
Wiebe	C
Winne and Marx	E/S
Zahorik	E

Dissertations

Aguero	S
Alexander	S
Anania	E/S
Burch	S
Carlini	E
Earle	C
El-Far	S
Haines	E
Homayoun	S
Hutz	E
Jensen	E
McDonald	S
McMeniman	S
Offner	E
Onnuam	E
Rachlin	C
Rodman	C
Ross	C
Santoso	E
Smith, S.	E
Speltz	E

Learning Disabilities

Articles

Austin	E
Boersma and Chapman	E
Brock	E
Brulle and Brulle	E/S
Cotugno	E
Epps et al.	E
Frank et al.	E/S
Grise et al.	E
Harris and King	E
Kavale	E
Low and Clement	E
Pennington et al.	E/S
Raschke et al.	E/S
Warrington	C

Dissertations

Bukatman	E
Butkowsky	E
DeBoskey	E
Fantasia	E
Goulas	S
Heraty	E
Hewitt	S/C
Hoy	E
Lieby	E
Matus	E
McFadden	E
Parolini	S
Singh, R.	S
Sparks	S
Speltz	E
Steeves	E/S
Tomblin	E/S

Materials

Articles

Austin and Lee	S
Cotugno	E
Davis et al.	E
Edge and Ashlock	E
Hagan	E/S
Ibarra and Lindvall	E
Jones	E/S
Khoury and Behr	E
Kraus	S/C
Northam	E/S
Sawada	E
Saxe	C
Saxon	S
Steinbrenner and Becker	E/S
Stigler et al.	E
Williams et al.	E/S

Dissertations

Bongjoh	S
Donahue	E
Fallbeck	C
Fluck	E
Glynn	E
Gutmann	E
Moore	E
Neves	S
Onnuam	E
Paul	E
Wiseman	E

Number and Numeration

Articles

Baroody	E
Bednarz and Janvier	E
Bright and Harvey	E
Cuneo	E
Edge and Ashlock	E
Gonzalez and Kolers	C
Mandler and Shebo	C

Dissertations

Kamii	E
Padilla	E
Thompson, P.	E
von Stein	E

Organizing for Instruction

Articles

Alderman	S
Anglin et al.	C
Bacon et al.	S
Becker and Gersten	E
Cancelli et al.	E
Carnine and Gersten	E
Cathcart	E
Cotterell	S
Giaconia and Hedges	E/S
Hill	E/S
Holtan	—
Horak and Horak	C
Johnson and Johnson	S
Jones and Maguire	E
Kornbluth and Sabban	E
Kulik and Kulik *(a, b)*	S
Mestre et al.	C
Monk	E
Nevin et al.	E/S
Onyejiaku	S
Peterson and Swing	E
Peterson et al.	E
Ross and Rakow	C
Rossmiller	E
Rudisill et al.	S
Russell *(a)*	E
Saxon	S
Shapson and Day	E
Swing and Peterson	E
Threadgill-Sowder and Sowder	E
Voeltz	E
Webb *(a, b)*	S
Zepp	S

Dissertations

Anania	E/S
Bailey	S
Beckerman	E
Bellemore	S
Bouldin	C
Brubaker	S
Bryant, R.	E
Casey	E/S
Chan	S
Clemente, J.	S
Clute	C
Delaney	E
Diaz Berdecia	E
Diem	C
Diggs	S
Dildy	E
Doig	S
Finger	E
Gee	S

Godia	C
Haines	E
Harris	S
Hawkins	S
Hoch	E
Huerta	E
Jenkins	S
Johnson, W.	E
Klaus	E/S
Knerr	S
Levine	E
Lieby	E
Mandelker	E
Marchionini	S
Matthews	E
Matus	E
Mueninghoff	E
Normandia	S
Nuhlicek	E
Paolicchi	E
Reese-Dukes	E
Rekdal	E
Ryan	E
Saito	E
Saltzen	E
Showalter	C
Smith, S.	E
Solkov	E
Stapleton	E
Steele	E
Stephens	E
Sullivan, F.	E
Sullivan, P.	S
Travis	E
Turinese	S
Turner, K.	C
Urbanski	S
Wells	C
Wilson	C
Witkowski	C
Woods	S
Zeguan	S

Problem Solving

Articles

Ballew and Cunningham	E
Clement	C
Ehindero	S
Hart	S
Hiebert	E
Hiebert et al.	E
Ibarra and Lindvall	E
Karat	—
Kraus	S/C
Lee	E
Mayer	C
Moser and Carpenter	E
Nesher et al.	E
Petitto	C
Schoenfeld	C
Spitz et al.	E/C
Suydam *(b)*	E
Szetela	E/S
Threadgill-Sowder and Sowder	E
Whitaker	E

Dissertations

Alexander	S
Blume	E
Brink	S
Burch	S
Devenney	S
Donahue	E
Fantasia	E
Fluck	E
Garfield	C
Garrard	S
Giangrasso	C
Glynn	E
Harik	S
Harvey	C
Herring	C
Jones, J.	E
Layne	C
Lodholz	E
Paul	E
Reding	E
Robinson	E
Rosnick	C
Rupley	S
Schulman	E
Singh, S.	S
Stover	E
Sullivan, F.	E
Tomblin	E/S
Van Velsir	C
Watson	E

Sequencing

Articles

Battista and Krockover	E
Brady	E/S
Bright and Harvey	E
Caldwell et al.	E
Cotterell	S
Cuneo	E
Davis et al.	E
Fitz-Gibbon and Clark	S
Hudson et al.	E
Karweit and Slavin	E
Jones	E/S
Posner	E
Rossmiller	E
Stigler et al.	E
Tversky and Gati	—
Welch et al.	S
Wilson	E/S
Wyne and Stuck	E
Yvon and Spooner	E
Zahorik	E

Dissertations

Annice	E
Barry	E
Bellemore	S
Bongjoh	S
Christian	E
Cooper	C
De Mary	E
Diggs	S
Feijo	E
Gibson	E/S
Gorce	S
Griffin, G.	E
Hawkins	S
Hodge	E
Khoury	C
Lawson	E/S
Lee, J.	S
Lee, M.	E
Manzer	C
O'Brien	C
Onnuam	E
Padilla	E
Powell	E
Reed	S
Ryan	E
Sevigny	E
Smith, J.	C
Sparks	S
Turner, M.	E/S
Van Zant	E
Vaughn	S
Wallace	E
Woods	S
Zafar	S
Zeguan	S

Sex Differences

Articles

Armstrong and Price	S
Benbow and Stanley	E/S
Benbow and Stanley	C
Dekkers et al.	S
Ehindero	S
Fendrich-Salowey et al.	E
Kaplan and Plake	C
Kirschner	—
Leder	S
Luchins and Luchins	E/S/C
Meece et al.	S/C
Murphy *(b)*	S
Northam	E/S
Onyejiaku	S
Parsons	S

Parsons et al. E
Parsons et al. E/S
Pennington et al. E/S
Perl S
Plake et al. C
Rogers E
Schofield E
Stones et al. C

Dissertations

Bridges S
Curcio E/S
Dew C
Earle C
Echols E/S
Garrard S
Giangrasso C
Glass C
Heimann S
Khampalikit E/S
Nolan S
Phillips, R. E
Pinsel C
Ramires E
Saltzen E
Seraydarian S
Stevens S
Turner, S. S

Test Analysis

Articles

Anderson et al. S
Arlin C
Austin and Lee S
Bar-Tal et al. E
Birenbaum and Tatsuoka S
Breland and Griswold C
Brock E
Darakjian and Michael S
Devine and Raju E/S
Dombrower et al. E
Forsyth and Ansley S
Freeman et al. E
Grise et al. E
Guttman and Shoham S/C
Hagan E/S
Hart S
Hashway S/C
Jaeger and Wolf E
Murphy *(a, b)* S
Nyberg and Clark E/S
Plake and Parker C
Plake et al. C
Roberts and Saxe C
Rust et al. E
Sandoval E
Sesnowitz et al. S
Smith S/C
Stigler et al. E
Suddick and Collins C
Suinn and Edwards S
Tallmadge E
Thurlow and Ysseldyke E/S
Torabi-Parizi and Campbell E
Wiebe C
Wild et al. C

Dissertations

Beal E
Bushyager S
Crowe E
Dew C
Frisz C
Gorce S
Hodge E
Kearns S
Khampalikit E/S
Maggio S
Nicholson E
Parolini S
Phillips, S. E/S
Siskind E/S